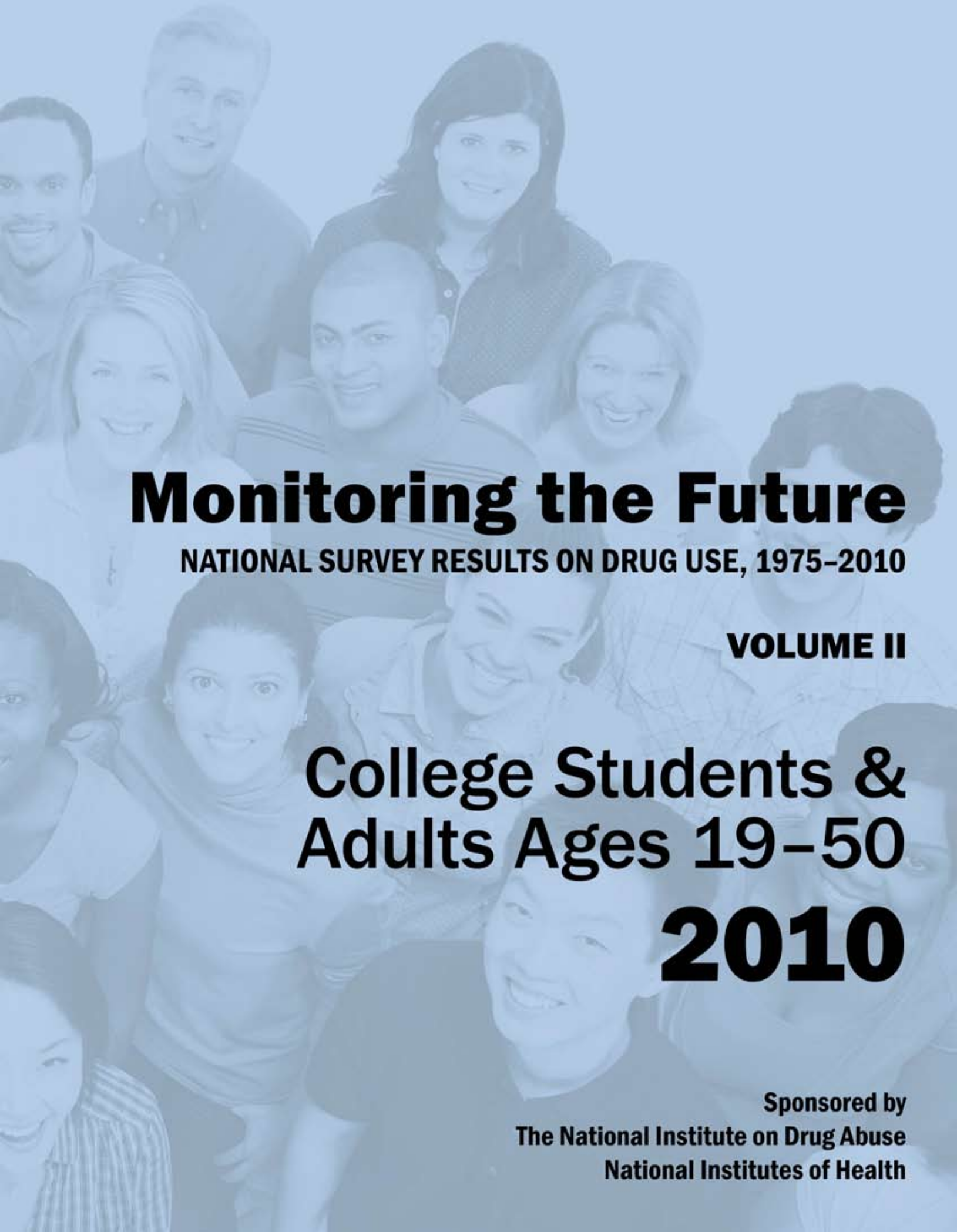

Monitoring the Future

NATIONAL SURVEY RESULTS ON DRUG USE, 1975–2010

VOLUME II

College Students & Adults Ages 19–50

2010

Sponsored by
The National Institute on Drug Abuse
National Institutes of Health

MONITORING THE FUTURE

NATIONAL SURVEY RESULTS ON DRUG USE, 1975–2010

Volume II

College Students and Adults Ages 19–50

by

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Sponsored by:
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Chapter 1

INTRODUCTION

Monitoring the Future (MTF), which is now in its 36th year, is a research program conducted at the University of Michigan's Institute for Social Research under a series of investigator-initiated research grants from the National Institute on Drug Abuse. The study is comprised of several ongoing series of annual surveys of nationally representative samples of 8th- and 10th-grade students (begun in 1991), 12th-grade students (begun in 1975), and high school graduates into adulthood (begun in 1976). The current monograph reports the results of the repeated cross-sectional surveys of high school graduates since 1976 as we follow them into their adult years. Several segments of the general adult population are covered in these follow-up surveys:

- American college students
- Their age peers who are not attending college, sometimes called the "forgotten half"
- All young adult high school graduates of modal ages 19 to 30, which we refer to as the "young adult" sample
- High school graduates at the specific later modal ages of 35, 40, 45, and 50

Changes in substance abuse and related attitudes and beliefs occurring at each of these age strata will receive particular emphasis.

The follow-up surveys have been conducted by mail on representative subsamples of the previous participants from each high school senior class. This volume presents data from the 1977 through 2010 follow-up surveys of the graduating high school classes of 1976 through 2009, as these respondents have progressed beyond high school and into adulthood—now through age 50 for the oldest respondents.

Other monographs in this series include the *Overview of Key Findings*,[1] which presents early results from the secondary school surveys; *Volume I*,[2] which provides an in-depth look at the secondary school survey results; and a final monograph, drawn from the follow-up surveys of

[1]Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2011). *Monitoring the Future national results on adolescent drug use: Overview of key findings, 2010.* Ann Arbor, MI: Institute for Social Research, The University of Michigan. (Note: Prior to 2011 all volumes in this series were published by the National Institute on Drug Abuse.) Available online at http://www.monitoringthefuture.org/pubs/monographs/mtf-overview2010.pdf.

[2]Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2010). *Monitoring the Future national survey results on drug use, 1975–2010: Volume I, Secondary school students*. Ann Arbor, MI: Institute for Social Research, The University of Michigan. (Note: Prior to 2011 all volumes in this series were published by the National Institute on Drug Abuse.) Available online at http://www.monitoringthefuture.org/pubs/monographs/mtf-vol1_2010.pdf.

21- to 30-year-olds, which focuses on risk and protective behaviors among young adults related to the transmission of HIV/AIDS.[3]

To enable this volume to stand alone, we have repeated chapters 2 and 3 from *Volume I*. Readers already familiar with *Volume I* may wish to skip over these chapters here.

SURVEYS OF COLLEGE STUDENTS AND NONCOLLEGE PEERS

As defined here, the college student population comprises all full-time students, one to four years post–high school, enrolled in a two- or four-year college in March during the year of the survey. More is said about this sample definition in chapters 3 and 8. Results on the *prevalence* of drug use among college students and their noncollege peers in 2010 are reported in chapter 8, and results on *trends* in substance use among college students and their noncollege peers over the past 31 national surveys are reported in chapter 9.

The MTF follow-up samples have provided excellent coverage of the U.S. college student population for three decades (1980-2010). College students tend to be a difficult population to study. They are generally not well covered in household surveys, which tend to exclude dormitories, fraternities, and sororities. Further, institution-based samples of college students must be quite large in order to attain accurate national representation because of the great heterogeneity in colleges and universities and in the types of student populations they serve. Obtaining good samples and high response rates within many institutions also poses difficulties, because the cooperation of each institution must be obtained, as well as reasonable samples of the student body. The current study, which in essence draws the college sample prospectively in senior year of high school, has considerable advantages for generating a broadly representative sample of college students who emerge from each graduating cohort; moreover, it does so at very low cost. In addition, its "before, during, and after college" design permits examination of the many changes associated with the college experience. Finally, the MTF design generates comparable panel data on high school graduates who are *not* attending college, an important segment of the young adult population not only in its own right, but also as a comparison group for college students. This is a particularly rare feature of this research design.

SURVEYS OF YOUNG ADULTS AND THOSE AGES 35, 40, 45, AND 50

The young adult sample consists of representative samples from each graduating class from 1997 to 2009, all surveyed in 2010, corresponding to modal ages 19 through 30. College students are included as part of this young adult sample. The MTF study design calls for annual follow-up surveys of each class cohort (though each individual participates in a follow-up survey only every two years) through modal age 30. Chapter 4 presents results on the prevalence of drug use for this age group as well as middle adulthood. Chapter 5 presents the trends of adult drug use and covers young adult ages 19 through 28 in order to allow an additional two years of comparison. Starting

[3]Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2010). *HIV/AIDS: Risk & protective behaviors among American young adults, 2004–2008* (NIH Publication No. 10-7586). Bethesda, MD: National Institute on Drug Abuse. Available online at http://www.monitoringthefuture.org/pubs/monographs/hiv-aids_2008.pdf.

at modal age 35, surveys are conducted at five-year intervals. In 2010 the graduating classes of 1978, 1983, 1988, and 1993 were sent the age-50, age-45, age-40, and age-35 questionnaires, respectively. Panel data into middle adulthood on nationally representative samples of the population, as well as data on successive class cohorts, are extremely rare.. They make possible analyses aimed at differentiating period-, age-, and cohort-related change; analyses demonstrating long-term connections between use of various substances and many important potential outcomes (including eventual abuse and dependence, adverse health outcomes, and functioning in work and family roles); tracking the life course of substance use involvement and the role of changes in social environments and social roles in such involvement; and determining some of the factors in adolescence and early adulthood that are predictive of later substance use, abuse, and dependence.

In this volume, we have reweighted respondent data to adjust for the effects of panel attrition on measures such as drug use using a statistical technique called poststratification, which will be explained later. We are less able to adjust for the absence of high school dropouts who were not included in the original 12th-grade sample. Because nearly all college students have completed high school, the omission of dropouts should have almost no effect on the college student population estimates, but this omission does affect the estimates for entire age groups. Therefore, the reader is advised that the omission of, on average, about 11% to 15% of each cohort who drop out of high school will likely make drug use estimates given here for the various young adult age bands somewhat low for the age group as a whole. (Note, however, that the high school drop-out rate continues to decline, so this has become a bit less of a problem for more recent cohorts). The proportional effect may be greatest for some of the most dangerous drugs such as heroin, crack, and methamphetamine, as well as for cigarettes—the use of which is highly correlated with educational aspirations and attainment.

GENERAL PURPOSES OF THE RESEARCH

MTF's research purposes are extensive and can be outlined here only briefly.[4] One major purpose is to serve a social indicator function, to accurately characterize the levels and trends in certain behaviors, attitudes, beliefs, and environmental conditions in the population. Social indicators can have important agenda-setting functions for society, drawing attention to new threats to the public health and estimating the extent of those threats as well as determining where they are concentrated in the population. They are especially useful for gauging progress toward national goals and indicating the impacts of major historical events, including social or policy changes. Another purpose of the study is to develop knowledge that increases our understanding of how and why changes in these behaviors, attitudes, beliefs, and so on are taking place. Such work is usually considered to be social epidemiology. These two broad purposes are addressed in the current series of volumes.

Additional purposes include helping to discover what types of young people are at greatest risk for developing various patterns of drug abuse, gaining a better understanding of the lifestyles and value orientations associated with various patterns of drug use and monitoring how these are

[4]For a more complete listing and discussion of MTF's many objectives, see Johnston, L. D., O'Malley, P. M., Schulenberg, J. E., & Bachman, J. G. (2006). *The aims and objectives of the Monitoring the Future study and progress toward fulfilling them as of 2006* (Monitoring the Future Occasional Paper No. 65). Ann Arbor, MI: Institute for Social Research. Available online at http://www.monitoringthefuture.org/pubs/occpapers/occ65.pdf.

shifting over time, examining the immediate and more general aspects of the social environment that are associated with drug use and abuse, and discovering how drug use is affected by major transitions into and out of social environments (such as military service, civilian employment, college, unemployment) or social roles (marriage, pregnancy, parenthood). We also seek to examine the life course of various drug-using behaviors during this period of development (including progression to dependence), distinguish such "age effects" from cohort and period effects that are influencing drug use and attitudes about drug use, discover the effects of social legislation and changing regulations on various types of substance use, and understand the changing connotations of drug use and changing patterns of multiple drug use among youth.

We believe that differentiating among period, age, and cohort effects on use of various types of substances has been a particularly important contribution of the project. The MTF cohort-sequential research design is especially well suited to discern changes with age common to all cohorts (age effects), differences among cohorts that tend to persist across time (cohort effects), and changes common to most or all ages in a given historical period (period effects).

Knowing which type of change is occurring is important for at least three reasons: First, it can help to discover what types of causes account for the change. For example, age effects often are explained by environmental and role transitions associated with age, as this study has demonstrated[5]. Second, it can indicate when in the life course the causes may have had their impact; in the case of cohort effects, it may well have been in earlier historical periods than when the change is actually documented. For example, we know from MTF data on age of initiation that the decline in cigarette smoking observed among 12th graders in the late 1970s actually reflected a cohort effect that emerged among younger teens in the early 1970s, which was shortly after cigarette advertising was removed from radio and television. The third reason that knowing the type of change is important is that it can help in predicting future change more accurately. For example, the study has shown that perceived risk often is a leading indicator of change and that cohort effects help to predict forthcoming changes at later ages. Needless to say, predicting change is extremely valuable to the policy, prevention, and treatment communities. This volume features recent period effects, well-established age effects, and some important cohort effects related to drug use and attitudes that emerged in the 1990s.

One important additional purpose of MTF, related to but distinct from the others, is to study HIV/AIDS-related behaviors. This purpose is now addressed in a separate monograph (see Footnote 3). In 2004, for the first time, questions were included on the prevalence and interconnectedness of risk and risk-reduction behaviors related to the spread of the human immunodeficiency virus (HIV), which causes acquired immunodeficiency syndrome (AIDS). The questions include, in addition to questions about drug involvement in general, questions about injection drug use, needle sharing in particular, as well as number of sexual partners, gender(s) of those partners, use of condoms, blood donation, getting tested for HIV/AIDS, and securing the results of such tests. Beginning in 2004 these questions were included in two of the six forms in the follow-up surveys of 21- to 30-year-olds. These questions were then added to an additional form

[5]Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education-drug use connection: How successes and failures in school relate to adolescent smoking, drinking, drug use, and delinquency*. New York: Lawrence Erlbaum Associates/Taylor & Francis; Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Bryant, A. L., & Merline, A. C. (2002). *The decline of substance use in young adulthood: Changes in social activities, roles, and beliefs*. Mahwah, NJ: Lawrence Erlbaum Associates.

beginning in 2007, and to the age 35 questionnaire in 2008 and then (having shown no deleterious effects on response rate at age 35) to the age 40 questionnaire in 2010.

Readers interested in publications dealing with any of these areas are invited to visit the MTF website at *www.monitoringthefuture.org*. For additional information, please e-mail us at *MTFinfo@isr.umich.edu*.

Chapter 2

KEY FINDINGS
AN OVERVIEW AND INTEGRATION ACROSS FIVE POPULATIONS

Monitoring the Future, now having completed its 36th year of data collection, has become one of the nation's most relied-upon sources of information on changes taking place in licit and illicit psychoactive drug use among American adolescents, college students, young adults, and more recently, middle-aged adults. During the last three and a half decades, the study has tracked and reported on the use of an ever-growing array of such substances in these populations.

This annual series of monographs is one of the major vehicles by which the epidemiological findings from MTF are reported. Findings from the inception of the study in 1975 through 2010 are included—the results of 36 national in-school surveys and 34 national follow-up surveys.

MTF has conducted in-school surveys of nationally representative samples of (a) 12th-grade students each year since 1975 and (b) 8th- and 10th-grade students each year since 1991. In addition, beginning with the class of 1976, the project has conducted follow-up mail surveys on representative subsamples of the respondents from each previously participating 12th-grade class. These follow-up surveys now continue well into adulthood.

A number of important findings have been summarized in this chapter to provide the reader with an overview of the key results. Because so many populations, drugs, and prevalence intervals are discussed here, a single integrative set of tables (Tables 2-1 through 2-4) show the 1991–2010 trends for all drugs on five populations: 8th-grade students, 10th-grade students, 12th-grade students, full-time college students modal ages 19–22, and all young adults modal ages 19–28 who are high school graduates. (Note that the young adult group includes the college student population.) *Volume II* also contains data on older age bands based on the longer term follow-up surveys: specifically, ages 35, 40, 45, and 50.

TRENDS IN ILLICIT DRUG USE—THE ADVENT OF COHORT EFFECTS

Early in the 1990s, we reported an increase in use of several illicit drugs among secondary school students, and some important changes among the students in terms of certain key attitudes and beliefs related to drug use. In the volume reporting 1992 survey results, we noted the beginning of such reversals in both use and attitudes among 8th graders, the youngest respondents surveyed in this study, and also a reversal in attitudes among 12th graders. Specifically, the proportions seeing great risk in using drugs began to decline, as did the proportions saying they disapproved of use. As we suggested then, those reversals indeed

presaged "an end to the improvements in the drug situation that the nation may be taking for granted." The use of illicit drugs rose sharply in all three grade levels after 1992, in what we refer to as the "relapse phase" in the larger epidemic of illicit drug use, as negative attitudes and beliefs about drug use continued to erode. This pattern continued into the mid-1990s, and beyond that for some drugs.

Then in 1997, for the first time in six years, the overall rate of ***illicit drug use*** finally began to decline among 8th graders. Although marijuana use continued to rise that year among 10th and 12th graders, their use of several other drugs leveled off, and relevant attitudes and beliefs also began to reverse in many cases. In 1998, illicit drug use continued a gradual decline among 8th graders and also began to decline at 10th and 12th grades. In 1999 and 2000, the decline continued for 8th graders, while use held fairly level among 10th and 12th graders. In 2002 and 2003, use by 8th and 10th graders decreased significantly, and use by 12th graders finally began to drop; declines then continued for all three grades in 2004 and for several years thereafter. But illicit drug use increased among 8th and 12th graders in 2008, followed by some increase in 8th and 10th grades in 2009, signaling an end to the immediately preceding period of decline. In 2010 the overall rate of illicit drug use increased for all grades, although only the increase among 8th graders was significant.

As will be illustrated below in the discussion of specific drugs, the increase in use of many drugs during the 1990s among secondary school students, combined with fairly level rates of use among college students and young adults, resulted in some unusual reversals in the usage rates by age (see Figure 2-1). In the early years of the epidemic, illicit drug use rates were clearly higher in the college-age group (and eventually the young adults) than they were among secondary school students. But by the late 1990s, the highest rates of active use (i.e., use within the prior year or prior 30 days) were found in the late secondary school years. In fact, in 1996 and 1997 both 10th and 12th graders actually had higher annual prevalence rates for illicit drug use (i.e., higher percentages reporting any use within the prior year) than either college students or all young adults. This changed somewhat after 2001, as the earlier heavier using cohorts of adolescents began to comprise the college student and young adult populations, while at the same time use among the incoming secondary school students was declining.

- As can be seen by the divergence of trends for the different age groups, something other than a simple secular trend in drug use was taking place; important cohort differences were emerging.

- In 2010, the rank order by age group for annual prevalence of using ***any illicit drug*** was 12th graders (38%), college students (35%), 19- to 28-year-olds (33%), 10th graders (30%), and 8th graders (16%). With respect to using ***any illicit drug other than marijuana*** in the past 12 months, there was less variability: 19- to 28-year-olds (19%), 12th graders (17%), college students (17%), 10th graders (12%), and 8th graders (7%).

- From the early 1990s until 1997, ***marijuana*** use rose sharply among secondary school students, as did their use of a number of ***other illicit drugs***, though more gradually. As previously stated, we have called this period a "relapse phase" in the longer term epidemic. An increase in marijuana use also began to occur among U.S. college students,

largely reflecting "generational replacement" (i.e., a cohort effect), wherein earlier cohorts were replaced in the college population by more recent ones who were more drug-experienced before they left high school. This resurgence in illicit drug use spread *up* the age spectrum in a reversal of the way the epidemic spread several decades earlier. In the 1960s the epidemic began on the nation's college campuses, and then diffused downward in age to high school students and eventually to middle school students. This time the increases began in middle schools and radiated up the age spectrum. The graduating class cohorts in the middle and late 1990s carried with them the pattern of heavier drug use that emerged while they were in secondary school in the early 1990s.

Increases during the 1990s in use of ***any illicit drug*** (including use of ***marijuana*** and use of ***other illicit drugs*** treated as a class) were substantially larger, in both proportional and absolute terms, in the three secondary school grades than in either the college or young adult populations. Among college students and young adults, the annual prevalence of use of ***any illicit drug*** held remarkably stable from 1991 through 1997, at the same time that use rose appreciably among adolescents (see Figure 2-1). We predicted that, as generational replacement continued to occur, we would likely see some increase in use of illicit drugs by the young adults. As would be expected given their younger age range (19–22), the increase happened sooner and more sharply among the college students than among the young adults in general (age range 19–28). Peak rates (since 1990) in annual prevalence of any illicit drug were reached in 1996 among 8th graders, in 1997 among 10th and 12th graders, in 2001 among college students, and in 2008 in the young adult segment. Similarly, the more recent declines in use among secondary students have thus far shown up only modestly among college students, and hardly at all among young adults.

Again, these diverging trends across age groups clearly show that changes during the 1990s reflected some important cohort effects rather than broad secular trends that would have appeared simultaneously in all of the age groups. During all of the previous years of the study, the use of most drugs moved in parallel across most age groups, indicating that secular change was prevailing.

- Similar to the use patterns for illicit drugs, the trend for ***cigarette*** smoking evidenced a generational replacement effect during the 1990s in that college students showed a sharp increase in smoking beginning in 1995, as the heavier smoking cohorts of secondary school students from the early to mid-1990s entered college. This has been a more typical pattern of change for cigarettes, however, since differences in cigarette smoking rates among class cohorts tend to remain through the life course and also tend to account for much of the overall change in use observed at any given age.

  In the early 1990s, cigarette smoking among 8th and 10th graders rose by about 50%—a particularly sharp and worrisome rise (based on 30-day prevalence rates shown in Table 2-3, and daily and half-pack rates shown in Table 2-4); MTF was the first study to draw national attention to this momentous development. Smoking also rose among 12th graders, beginning a year later.

The increase in current smoking ended among 8th and 10th graders in 1996, among 12th graders in 1997, and among college students in 1999. The nation then entered a period of appreciable decline in smoking rates that first began among 8th graders in 1997 and then began radiating up the age spectrum as those cohorts aged. (The 8th-grade 30-day prevalence rate fell by two thirds, from 21% in 1996 to 7.1% in 2010.) Among the college and the young adult strata, the declines have been less sharp so far, but they are continuing. The 30-day smoking prevalence rate for college students in 2010 (16%) is down about almost half from the recent peak of 31% in 1999, with the decline accelerating after 2005 as the cohort effect worked its way up the age bands. Smoking among the young adult subgroup, on the other hand, has dropped by only three tenths (to 22% by 2010) since its recent peak rate of 31% in 1998. The decline in smoking rates among secondary school students had been decelerating in all three grades in recent years; however, the decline has halted among 8th and 10th graders, and there is now some indication that a turnaround is occurring.

- During the 1990s, the annual prevalence of ***marijuana*** use tripled among 8th graders (from 6% in 1991 to 18% in 1996), more than doubled among 10th graders (from 15% in 1992 to 35% in 1997), and nearly doubled among 12th graders (from 22% in 1992 to 39% in 1997). Among college students, however, the increase in marijuana use, presumably due to a generational replacement effect, was much more gradual. Annual prevalence of use rose by about one third, from 27% in 1991 to 36% in 1998. Marijuana use began to decline in 1997 among 8th graders and then did the same in 1998 among 10th and 12th graders. The rate of decline was rather modest, however, perhaps due in part to effects of the public debates over medical use of marijuana during that period. In 2001, use remained level in all three grades, but between 2001 and 2004 all three grades showed significant declines in their annual prevalence of marijuana use, with the proportional decline greatest among 8th graders. Eighth graders have shown the most steady long-term decline since their recent peak, which occurred in 1996, although the decline halted in 2008, after a decline of more than four-tenths since 1996. After 2007 use began to increase among 8th graders. Declines had been occurring in the upper grades after 1997, but mostly after about 2001, with their annual prevalence rates having fallen from recent peaks by 31% and 18% (roughly between 1997 and 2008) for 10th and 12th graders, respectively. The decline halted in 2009 among 10th graders and in 2008 among 12th graders. In 2010 marijuana use increased for all three grades, though only the 8th grade change was statistically significant. The decline in annual marijuana use from recent peak levels among college students has so far been quite modest, declining from 36% in 2001 to 33% in 2010. Young adults showed very little change in that interval (see Table 2-2). What seems clear is that the long decline in marijuana use among teens over roughly a 10 year period has ended, and the trends are beginning to reverse. If a new cohort effect emerges, then within a few years we are likely to see an increase in marijuana use among college students and young adults generally.

- ***Daily marijuana use*** in all of these groups rose substantially after 1992, reaching peak levels in a somewhat staggered fashion as that just described (see Table 2-4). Daily use began a slow decline after 1999 among 8th graders, after 2001 among 10th graders, and after 2003 among 12th graders, consistent with a cohort effect pattern. Use at all three

grade levels was fairly level after 2004. In 2010 daily use at all three grade levels increased significantly, reaching 1.2%, 3.3%, and 6.1% in grades 8, 10, and 12, respectively. College student and young adult rates of daily use have been fairly level in recent years. In general, prevalence of daily marijuana use has been slow to decline, even though annual and 30-day prevalence figures have been dropping. Still, the rates today are low relative to the peaks reported in the late 1970s. For example, 12th graders' 6.1% prevalence of daily use in 2010 is about six tenths the 10.7% peak figure reached in 1978—at the height of the illicit drug epidemic—and about equivalent to the more recent high of 6.0% recorded in 2003. Still, the fact that daily marijuana use is rising now in all three grades serves as a reminder of what a relapse in the epidemic of marijuana use, as occurred in the early 1990s, could bring.

The amount of perceived risk associated with using marijuana fell during the earlier period of increased use in the late 1970s, and fell again during the more recent resurgence of use in the 1990s. Indeed, perceived risk among 12th graders began to decline a year *before* use began to rise in the upturn of the 1990s, making perceived risk a leading indicator of change in use. (The same may have happened in 8th grade, as well, but we do not have data starting early enough to check that possibility.) The decline in perceived risk halted after 1997 for 8th and 10th graders, and annual prevalence began to decline a year or two later. Again, perceived risk was a leading indicator of change in use, as it has proven to be for a number of drugs. As discussed in *Volume I*, chapter 8, these attitudes, as well as the behaviors that they predict, show evidence of cohort effects over the past decade and a half.

Personal disapproval of marijuana use slipped considerably among 8th graders between 1991 and 1996 and among 10th and 12th graders between 1992 and 1997, as use rose considerably. For example, the proportions of 8th, 10th, and 12th graders who said they disapproved of trying marijuana once or twice fell by 17, 21, and 19 percentage points, respectively, during their respective intervals of decline. Subsequently, disapproval began to rise among 8th graders after 1997 and continued through 2007, while it began to rise in the upper grades in 2002 and also continued through 2007 among 10th and 12th graders, as use declined gradually. Since 2007 or 2008 there has been some reversal on this attitude as well as in use.

- Among 12th graders, the proportions using ***any illicit drug other than marijuana*** in the past year rose from a low of 15% in 1992 to a high of 21% in 1999 (see Table 2-2); these levels were substantially below the 34% peak rate reached two decades earlier, in 1981. All of the younger groups showed significant increases between 1992 and 1997, with use beginning to increase in 1992 among 8th graders, in 1993 among 10th and 12th graders, and in 1995 among college students—again reflecting evidence of a cohort effect. Use peaked in 1996 among 8th and 10th graders, by 1997 among 12th graders, around 2004 among college students and in 2008 for young adults. The 8th graders have shown a gradual but considerable decline in their use of the other illicit drugs, treated as a class, since 1996 (13.1% annual prevalence in 1996 to 7.1% in 2010; the decline among 10th graders paused after 1998 and did not resume until after 2001 with a net decline in annual prevalence from 18.4% in 1996 to 11.3% in 2008, and little change since; 12th-grade use

also showed some declines beginning after 2001 (21.6%), and stands just 4.3 percentage points lower (at 17.3%) in 2010. College students have shown only a very slight decline in use of any illicit drug other than marijuana, from a high of 18.6% in 2004 to 17.1% in 2010. Use among young adults has remained at about the same level of annual use (between 17% and 19%) since 2003.

- Between 1989 and 1992 we noted an increase among 12th graders, college students, and young adults in their use of ***LSD***, a drug quite popular in the late 1960s and early 1970s. In 1992 the newly added populations (8th and 10th graders) were also showing an increase in LSD use; for several more years, modest increases persisted in all five populations. Use of LSD peaked in 1995 among college students and young adults and in 1996 among 8th, 10th, and 12th graders, after which LSD use gradually declined in all five populations until 2005 for 8th, 10th, and 12th graders. Overall, the pattern for LSD use seems more consistent with secular change than a cohort effect. The different age groups moved in parallel for the most part, likely in response to historical events in the environment, including a sharp reduction in LSD availability after 2001.

  Prior to the significant increase in LSD use among 12th graders in 1993, there was a significant 4.3-percentage-point decline between 1991 and 1992 in the proportion seeing great risk associated with trying LSD. Once again, perceived risk proved to be a leading indicator of change in use. The decline in perceived risk continued through 1997 and halted in 1998. The proportion of 12th graders disapproving of LSD use began to decline in 1992, and continued to decline through 1996.

  Because LSD was one of the earliest drugs to be popularly used in the American drug epidemic, young people in the 1990s may have been relatively unaware of the risks of use. They had less opportunity to learn vicariously about the consequences of use by observing others around them or to learn from intense media coverage of the issue, which occurred some years earlier. We were concerned that this type of generational forgetting of the dangers of a drug, which occurs as a result of generational replacement, could set the stage for a whole new epidemic of use. In fact, perceived harmfulness of LSD began to decline after 1991 among 12th graders. Perceived risk and disapproval among 8th and 10th graders, first measured in 1993, both showed declines until 1997 or 1998, after which they leveled among 10th graders but then declined considerably more among 8th graders. In 2004, twelfth graders' personal disapproval of trying LSD increased significantly, with little change since. Because the decline in use in the last few years has generally *not* been accompanied by expected changes in these attitudes and beliefs, we suspected that some displacement by another drug might have been taking place, at least through 2001. The most logical candidate is ***ecstasy*** (***MDMA***), which, like LSD, is used for its hallucinogenic effects; ecstasy was popular in the club and rave scenes, and was very much on the rise through 2001. After 2001, a sharp decline in the reported availability of LSD in all five populations (which corresponded to the closing of a major LSD lab by the Drug Enforcement Administration) very likely played a major role in the sharp decline in use of LSD among all groups. However, we want to caution that 8th graders' attitudes, in particular, are changing such as to make them receptive to LSD use some time in the future, should a plentiful supply re-emerge.

- Questions about the use of ***ecstasy*** (***MDMA***) have been included in the follow-up surveys of college students and young adults since 1989; however, because of our concern about stimulating interest in an attractive-sounding and little-known drug, these questions were not added to the secondary school surveys until 1996. From 1989 to 1994, the annual prevalence rates tended to be quite low in the older age groups for whom we had data, but in 1995 these rates increased substantially—from 0.5% in 1994 to 2.4% in 1995 among college students, and from 0.7% to 1.6% over the same time span among young adults generally.

  When usage data were first gathered on secondary school students in 1996, the 10th and 12th graders actually showed higher rates of annual use (both 4.6%) than the college students (2.8%). Ecstasy use then fell steadily in all three grades between 1996 and 1998, though it did not fall in the older age groups. But between 1998 and 2001, use rose sharply in all five populations. In fact, annual prevalence more than doubled in that three-year period among 12th graders, college students, and young adults, and nearly doubled in the lower grades. In 2000 even the 8th graders showed a significant increase in use. Ecstasy use for all five age groups declined slightly in 2002, but significantly only for 10th graders; declined again in 2003, with significant drops for all groups except the college students; and showed some decline again in 2004, with the largest decreases among college students and young adults. This pattern suggests that both cohort effects and a secular trend were at work. Once again, this decline in use among 12th graders was predicted by an increase in perceived risk in 2001—an increase that continued through 2005. Among college students the annual prevalence fell by half in 2004 alone, and all five groups are at rates that are still much lower than their recent peaks in 2001. Since around 2005 or 2006, there has been some rebound in use among all five populations, including a significant increase in the lower grades in 2010.

  Ecstasy use among all five populations has been moving fairly synchronously since 1999, which suggests that a secular trend (some change in events in the social environment) has affected everyone. An important change during this period was the increasing availability of information on the adverse effects of ecstasy use via stories in the popular media, dissemination of the scientific evidence by the National Institute on Drug Abuse, and an anti-ecstasy media campaign by the Partnership for a Drug-Free America and the Office of National Drug Control Policy, initiated in 2002.

  The quite dramatic increase in reported availability of ecstasy through 2001, reported by 12th graders, was substantiated by law enforcement data on ecstasy seizures. Of the 12th graders surveyed in 1991, only 22% thought they could get ecstasy fairly easily, but a decade later (in 2001) 62% thought that they could. After 2001, however, the perceived availability of ecstasy began decreasing in all three grades, possibly due in part to the steep decline in the number of users, who serve as supply points for others. The decreases continued into 2007 among 8th graders, halted in 2008, and then resumed in 2009. In the upper grades, decline in perceived availability halted in 2007, followed in 2008 by some further downturn; among 10th graders, perceived availability leveled in 2010 while among 12th graders it decreased somewhat in 2009 and increased non-significantly in 2010. (See Figure 8-6 in *Volume I*, chapter 8 for a graphic presentation of the trends in

ecstasy use, availability, and perceived risk for 12th graders.) However, perhaps the most important change that has been taking place since 2005 is a continual decline in perceived risk for ecstasy use among 8th, 10th, and 12th graders, quite possibly as a result of generational forgetting. In our 2009 MTF report, we suggested that this decline in perceived risk was leaving high school students increasingly vulnerable to a possible rebound in use of ecstasy; indeed, just such a rebound now appears to be occurring.

- Between 1982 and 1992, annual prevalence rates for ***amphetamine*** use (other than use that was ordered by a physician) among 12th graders fell by nearly two thirds, from 20.3% to 7.1%. Rates among college students fell even more over the same interval, from 21.1% to 3.6%. During the relapse phase in the drug epidemic in the 1990s, annual amphetamine use increased by about half among 8th and 10th graders between 1991 and 1996, and also increased among 12th graders and college students between 1992 and 1996. After 1996 the age groups diverged, with amphetamine use declining gradually among 8th and 10th graders but continuing to rise among 12th graders, college students, and young adults until about 2002. The declines continued through 2010 for 8th graders, through 2008 for 10th graders, and through 2009 for 12th graders. College students showed a leveling after 2000, followed by some decline through 2008, but their annual prevalence rates have increased some in the last couple of years. Young adults were stable between 2000 and 2008, but have increased significantly since then. This pattern of cross-age-group change suggests a cohort effect at work for amphetamine use. In sum, amphetamine use has increased in all groups in the past one to two years; only the 8th graders have not yet shown an increase.

  Among 12th graders, the increase in nonmedical use of amphetamines (and a concurrent decrease in disapproval) began in 1993; this followed a sharp drop in perceived risk a year earlier (which, as we have noted for a number of drugs, often serves as a leading indicator). Following a period of decline, perceived risk among 12th graders increased gradually from 1995 through 2009.

- Use of the amphetamine ***Ritalin*** outside of medical supervision showed a distinct increase around 1997—with annual prevalence among 12th graders going from 0.1% in 1992 to 2.8% in 1997—and then stayed level for a few years (see appendix E in *Volume I*, Table E-2[6]). Because of its increasing importance, a differently structured question was introduced for Ritalin use in 2001 (2002 in the follow-ups of college students and young adults). This new question, which we prefer to the original, does not use a prior branching question and produced somewhat higher prevalence rates. Results from the new question suggest an ongoing, gradual decline in Ritalin use, which continued into 2009 in all five populations. The decline continued further in 2010 among 8th and 10th graders, but use leveled in 2010 among 12th graders, college students, and young adults.

[6]As discussed in appendix E of *Volume I*, the absolute prevalence rates for Ritalin were probably higher than these statistics indicate, but the trend story is likely quite accurate. See Table 2-2 for more accurate estimates of the absolute annual prevalence rates in recent years; these estimates are based on a new question that does not require the respondent to first indicate some amphetamine use before branching him or her to a question about Ritalin use.

- Another amphetamine used in the treatment of the symptoms of attention deficit hyperactivity disorder (ADHD) is ***Adderall***. A new question on its use was introduced in 2009; annual prevalence rates in both 2009 and 2010 were higher than those for Ritalin in all five populations. This suggests that Adderall may have to some degree replaced the use of Ritalin and may help to account for the declines that we have been observing for the latter drug. In 2010 some increase in Adderall use occurred in three of the five populations (10th graders and college students being the exception). The absolute prevalence rates are fairly high, particularly among college students (9.0% in 2010) and young adults generally (7.0%).

- ***Methamphetamine*** questions were introduced in 1999 because of rising concern about use of this drug; but a decline in use has been observed among all five populations in the years since then, although young adults did not show declines until 2005. In 2007 this decline continued in all five populations, and was significant in grades 8 and 12, with little further change thereafter. In 2010 use in all five populations was at very low rates of annual prevalence—particularly among college students (0.4%) and young adults (0.7%). These substantial declines occurred during a period in which there were many stories in the media suggesting that methamphetamine use was a *growing* problem—an example of the importance of having accurate epidemiological data available against which to test conventional wisdom.

- Measures on the use of ***crystal methamphetamine*** (***ice***) (a crystallized form of methamphetamine that can be smoked, much like crack) have been included in MTF since 1990. The use of crystal methamphetamine increased between the early and late 1990s among the three populations asked about their use: 12th graders, college students, and young adults. However, it never reached very high levels. The estimates are less stable than usual due to the relatively small sample sizes asked about this drug, but it appears that among 12th graders crystal methamphetamine use held fairly steady from 1999 through 2005 (when it was 2.3%); since then it has declined to 0.9% in 2009 and 2010. Use rose somewhat among college students and other young adults until 2005, before dropping substantially since then. After their peak levels were reached in 2005, college students and young adults have shown about a two-thirds drop in annual prevalence to 0.5% by 2010.

- ***Inhalants*** are defined as fumes or gases that are inhaled to get high, and they include common household substances such as glues, aerosols, butane, and solvents of various types. Among 12th graders there was a long-term gradual increase in the use of inhalants (unadjusted for nitrite inhalants) from 1976 to 1987, followed by a leveling for a few years and then a further increase in the early 1990s. This troublesome increase in inhalant use also occurred among students in the lower grades, and was followed by a reversal in all 3 grades after 1995. After reaching a low point in 2002 or 2003 in grades 8, 10, and 12, use of inhalants increased some in all grades, but then declined in all grades more recently. Perceived risk for inhalant use among 8th and 10th graders had been declining fairly steadily after 2001, quite possibly as a result of generational forgetting of the dangers of these drugs; this decline halted in 2009 and 2010. A new anti-inhalant

campaign might well be effective in offsetting this decline in perceived risk in recent years, much as a similar campaign appeared to do in the mid-1990s.

- ***Amyl and butyl nitrites***, one class of inhalants, became somewhat popular in the late 1970s, but their use has been almost eliminated in the years since then. The annual prevalence rate among 12th-grade students was 6.5% in 1979 but only 0.9% in 2009. (Because of this decrease in use, and to allow for the addition of other questions, the questions on nitrite use were dropped from the study in 2010.) When nitrites were included in the definition of inhalants, they masked the increase that was occurring in the use of other inhalants, because their use was declining (Figure 5-4c in *Volume I*).

- ***Crack cocaine*** use spread rapidly from the early to mid-1980s. Still, among 12th graders, the use of crack remained relatively low during this period (3.9% annual prevalence in 1987). Clearly, crack had quickly attained a reputation as a dangerous drug, and by the time of our first measurement of perceived risk in 1987, it was seen as the most dangerous of all drugs. Annual prevalence dropped sharply in the next few years, reaching 1.5% by 1991, where it remained through 1993. Perceived risk began a long and substantial decline after 1990—again serving as a leading indicator of use. Use rose gradually after 1993, from 1.5% to 2.7% by 1999. It finally declined slightly in 2000 and then held level through 2007. Since then, some further declined has occurred, and in 2010 in annual prevalence is at 1.4%,—about half of what it was in 1999.

  Among 8th and 10th graders, crack use rose gradually in the 1990s: from 0.7% in 1991 to 2.1% by 1998 among 8th graders, and from 0.9% in 1992 to 2.5% in 1998 among 10th graders. And, as just discussed, use among 12th graders peaked in 1999 at 2.7% and among young adults at 1.4%. Since those peak years, crack use has declined appreciably—by about half among 8th, 10th, and 12th graders—yet it held fairly steady among college students and young adults, at least until 2007, when use among college students finally began to decline. In general, the 2010 prevalence rates for this drug are relatively low—between 0.4% and 1.4% in all five groups. Twelfth graders have the highest prevalence rate. Annual crack prevalence among the college-bound is considerably lower than among those not bound for college (1.2% for college-bound vs. 2.5% for non-college-bound in 2010).

  We believe that the particularly intense and early media coverage of the hazards of crack cocaine likely had the effect of capping an epidemic early by deterring many would-be users and motivating many experimenters to desist use. As has been mentioned, when we first measured crack use in 1987, it had the highest level of perceived risk of any illicit drug. Also, it did not turn out to be "instantly addicting" upon first-time use, as had been widely reported. In some earlier years, 1994 and 1995 for example, 3% of 12th graders reported ever trying crack; however, only about 2% used in the prior 12 months and only about 1.0% used in the prior 30 days. It thus appears that, among the small numbers of 12th graders who have ever tried crack, the majority did not establish a pattern of continued use, let alone develop an addiction.

In 1993 the levels of perceived risk and disapproval associated with crack dropped in all three grade levels, foretelling the rise in use that occurred in all three grades between 1994 and 1998. Because more than a decade had passed since the 1986 media frenzy over crack and its dangers, it is quite possible that generational forgetting of the risks of this drug contributed to the declines in risk and disapproval. Indeed, perceived risk of crack use eroded steadily at all grade levels from 1991 (or 1992 for 12th graders) through 2000. There was not much systematic change in risk or disapproval of crack after that. However, in 2010 eighth graders' perceived risk of trying crack increased significantly. There were also non-significant increases among 10th and 12th graders. Disapproval of trying crack also increased in 2010 among 8th graders, though the increase was not significant.

- Use of ***cocaine***[7] in general began to decline a year earlier than crack, probably because crack was still in the process of diffusing to new parts of the country, being still quite new. Between 1986 and 1987 the annual prevalence rate for cocaine dropped dramatically, by about one fifth in all three populations being studied at that time—12th graders, college students, and young adults. The decline occurred when young people finally began to view experimental and occasional use—the type of use in which they are most likely to engage—as more dangerous. This change was probably influenced by the extensive media campaigns that began in the preceding year, but also almost surely by the highly publicized cocaine-related deaths in 1986 of sports stars Len Bias and Don Rogers. By 1992 the annual prevalence of cocaine use had fallen by about two thirds among the three populations for which long-term data are available (12th graders, college students, and young adults).

  During the resurgence of illicit drug use in the 1990s, however, cocaine use in all five populations increased some, both beginning and ending in a staggered pattern by age, consistent with a cohort effect. Use rose among 8th graders from 1991 to 1998, among 10th and 12th graders from 1992 to 1999, among college students from 1994 to 2004, and among young adults from 1996 through 2004. As with crack, all five populations showed some decline in cocaine use in 2008 through 2010. Annual prevalence rates in 2010 are 1.6%, 2.2%, 2.9%, 3.5% and 4.7% for the five populations, respectively. For a few years (1996–1999) 12th graders had higher prevalence rates than young adults; but because of the staggered declines in use, young adults have had the highest prevalence rates in all years thereafter (see Table 2-4).)

  The story regarding attitudes and beliefs about cocaine use is informative. Having risen substantially after 1986, the perceived risk of using cocaine showed some (nonsignificant) decline in 1992 among 12th graders. In 1993, perceived risk for cocaine powder fell sharply in all grades and disapproval began to decline in all grades, though not as sharply as perceived risk. During this time cocaine use was making a comeback. The decline in perceived risk had virtually ended by 1995 among 8th graders, by 1998

[7]Unless otherwise specified, all references to "cocaine" refer to the use of cocaine in any form, including crack.

among 10th graders, and by 2001 among 12th graders, suggesting a cohort effect at work in this important belief, which tends to drive use.

The perceived availability of cocaine among 12th graders rose steadily from 1983 to 1989, suggesting that availability played *no* role in the substantial downturn in use that occurred after 1986. After 1989, however, perceived availability fell some among 12th graders—which may be explained in part by the greatly reduced proportions of 12th graders who said they have any friends who use, because friendship circles are an important part of the supply system.

As with all the illicit drugs, lifetime cocaine prevalence climbs with age; in 2010 it reached 40% among 50-year-olds, which reflects a cohort effect as well as the age effect. Unlike all of the other illicit drugs, active use of cocaine—i.e., annual or monthly prevalence—holds fairly steady after high school (and, until recent years, its use actually increased after high school) rather than declining (see Figure 4-7 in *Volume II*). Nearly all of the other illicit drugs show a decline in active use with age after high school.

- ***PCP*** use fell sharply among 12th graders between 1979 and 1982, from an annual prevalence of 7.0% to 2.2%. It reached a low point of 1.2% in 1988, rose some in the 1990s during the relapse period in the drug epidemic, reaching 2.6% by 1996, and then declined to 1.1% by 2002, with little change thereafter (1.0% in 2010). For young adults, the annual prevalence rate has fluctuated between 0.1% and 0.6%, but has been quite low since 2002.

- Looking at the long-term trends, we see that the annual prevalence of ***heroin*** use among 12th graders fell by half between 1975 (1.0%) and 1979 (0.5%), then stabilized for 15 years, through 1994. Heroin use was also stable in the early 1990s among the other four populations covered here. Then, in 1994 for 8th graders and in 1995 for all other groups, use suddenly increased, with rates doubling or tripling in one or two years for 12th graders, college students, and young adults, and then remaining at the new higher levels among all five populations for the rest of the decade. After 1999 to 2001, heroin use fell back to lower levels than were observed in the mid- to late-1990s. Most of that decline was in heroin use without a needle, which we believe was largely responsible for the increase in use in the first half of the 1990s. In sum, all age groups except for the young adults have annual prevalence rates of heroin use in 2010 that are well below recent peaks (by roughly one third to one half). Young adults still remain at peak rates (0.5-0.6% in 2008–2010), perhaps due in part to a cohort effect working its way up the age spectrum. Twelfth graders did show a significant increase in 2010 for heroin use with a needle; however, we would want to see some confirmation before treating this finding as anything other than the occasional random fluctuation, because there is no evidence of such an increase in any of the other four populations. There is little evidence of any ongoing trends at present.

  Two factors very likely contributed to the upturn in heroin use in the 1990s. One is a long-term decline in the perceived risk of harm, probably due to generational forgetting, because it had been a long time since the country had experienced a heroin epidemic

along with publicity about its accompanying casualties. The second factor, not unrelated to the first, is that in the 1990s the greatly increased purity of heroin allowed it to be used by means other than injection. This may have lowered an important psychological barrier for some potential users, making heroin use less aversive and seemingly less addictive and less risky in general, because avoiding injection reduces the likelihood of transmission of HIV, hepatitis, or other serious blood-borne diseases. By introducing some new questions on heroin use in 1995, we were able to show that significant proportions of past-year users in all five populations were indeed taking heroin by means other than injection at that point (see Table 2-2 and chapter 4 in both *Volume I* and *Volume II* for details).

The risk perceived to be associated with heroin fell for more than a decade after the study began, with 60% of the 1975 twelfth graders seeing a great risk of trying heroin once or twice, and only 46% of the 1986 twelfth graders saying the same. Between 1986 and 1991, perceived risk rose some, from 46% to 55%, undoubtedly reflecting the newly recognized threat of HIV infection associated with heroin injection. After 1991, however, perceived risk began to fall again (to 51% by 1995), this time perhaps reflecting the fact that the newer heroin available on the street could be administered by methods other than injection. Between 1996 and 1998, perceived risk among 12th graders rose—possibly as the result of an antiheroin campaign launched by the Partnership for a Drug-Free America in June 1996, as well as the visibility of heroin-related deaths of some celebrities in the entertainment and fashion design worlds. The perceived risk of trying heroin decreased among 12th graders in 1999, however, foretelling a significant increase in their use of the drug in 2000. In 2001, as the perceived risk of trying heroin increased slightly, 12th-graders' use declined significantly. In recent years there has been little systematic change in the perceived risk of heroin use.

Questions about the degree of risk perceived to be associated with heroin use were introduced into the questionnaires for 8th and 10th graders in 1995. The questions asked specifically and only about use "without using a needle" because we thought this was the form of heroin use of greatest concern at that point. (Similar questions were asked of 12th graders, as well, in one of the six questionnaire forms used in 12th grade.) In general, perceived risk for ***heroin use without a needle*** began rising after 1995, leveled for awhile, and then began rising further. Perceived risk has held fairly steady among 8th and 10th graders since it was first measured although there was some non-significant increase in 2010.

- The use of ***narcotics other than heroin*** is reported only for 12th graders and older populations because we believe that younger students are not accurately discriminating among the drugs that should be included or excluded from this general class. Use declined gradually over most of the first half of the study in these three older groups. Twelfth graders had an annual prevalence rate in 1977 of 6.4%, which fell to 3.3% by 1992. But after about 1992 or 1993, all of the older age groups showed continuing increases for a decade or more, through 2003 or 2004, before stabilizing. An updating of the list of examples given in the question stem in 2002 (to include Vicodin and OxyContin) led to an increase in reported prevalence. After a considerable increase in use

from 1992 through 2001, during the relapse phase in the general epidemic and going beyond it, the use of narcotics other than heroin has remained relatively constant, but near the highest levels recorded by MTF.

The specific drugs in this class are listed in Table E-4 in appendix E of *Volume I*. Among these, ***Vicodin***, ***codeine***, ***OxyContin***, and ***Percocet*** are commonly mentioned by 12th graders in recent years.

- In 2002, specific questions were added for ***Vicodin*** and ***OxyContin***, and the observed prevalence rates suggest that these two drugs likely help to account for the upturn in use of the general class of narcotics other than heroin. In 2003, Vicodin had attained surprisingly high prevalence rates in the five populations under study here—an annual prevalence of 2.8% in 8th grade, 7.2% in 10th grade, 10.5% in 12th grade, 7.5% among college students, and 8.6% among young adults. In 2010 the rates were similar, at 2.7%, 7.7%, 8.0%, 4.9%, and 7.8%, respectively. Lower annual prevalence rates were found for OxyContin than Vicodin across all age groups, but given that it is a highly addictive narcotic drug, the rates are not inconsequential. In 2010 the annual prevalence rates for OxyContin were higher than in 2003: 2.1%, 4.6%, 5.1%, 2.3%, and 3.2%. OxyContin use showed significant increases in 2009 among college students and young adults; but these were more than offset by significant decreases in both populations in 2010, suggesting that the 2009 values were overestimates (attributable to sampling error). Because OxyContin has received considerable adverse publicity in recent years, it is possible that perceived risk (which we do not measure) will increase. But because its use appears to have originated in several fairly delimited geographic areas, it seems likely that OxyContin was diffusing to new communities for some time, which may have delayed its turnaround in use. We believe a similar process happened earlier when crack and ecstasy use were rising.

- Annual prevalence of ***tranquilizer*** use among 12th graders saw a long and substantial decline from 11% in 1977 to 2.8% in 1992. After 1992, use increased significantly among 12th graders (as has been true with most drugs), reaching 7.7% in 2002 (but the question was revised slightly in 2001 to include Xanax as an example of a tranquilizer, so a small portion of the increase may be an artifact). Since then annual prevalence has leveled or even dropped a bit (5.6% in 2010). Reported tranquilizer use also increased modestly among 8th graders, from 1.8% in 1991 to 3.3% in 1996, before declining to 2.6% in 1998 and leveling since then. As with a number of other drugs, the downturn in use began considerably earlier among 8th graders compared to their older counterparts. Among 10th graders, annual prevalence remained stable between 1991 and 1994 at around 3.3%, and then increased significantly to 5.6% in 2000 and 7.3% in 2001 (possibly including some artifact, as noted above). Use declined a bit after 2001, before leveling. After a period of stability, college student use showed an increase between 1994 and 2003 (to 6.9%), more than tripling in that period. Since then there has been a gradual decline to 4.9% by 2010. For the young adult sample, after a long period of decline, annual prevalence more than doubled between 1997 and 2002, with little change thereafter (6.3% in 2010). Thus, while there was a considerable increase in use in all five populations, which reflected in part a cohort effect that first began in the early 1990s

among 8th graders, that increase is clearly over and there has been some downward correction in recent years. Most of the reported tranquilizer use in recent years has involved ***Valium*** and ***Xanax*** (see Table E-3 in appendix E of *Volume I*).

- The long-term gradual decline in ***sedative*** (***barbiturate***) use among 12th graders, which has been observed since the start of the study in 1975, halted in 1992. (Data are not included here for 8th and 10th graders, again because we believe that these students have more problems with proper classification of the relevant drugs.) Use among 12th graders then rose considerably during the relapse phase in the drug epidemic, from 2.8% in 1992 to 6.7% by 2002—but still well below the peak rate of 10.7% in 1975; use has shown a modest improvement since 2002 (4.8% in 2010). The 2010 annual prevalence of this class of drugs is lower among young adults (3.3%) and college students (2.5%) than among 12th graders. Use among college students began to rise a few years later than it did among 12th graders, likely reflecting a cohort effect, but is now at its lowest point since 1998. Among young adults, sedative (barbiturate) use increased since the early 1990s, rising from 1.6% in 1992 to 4.4% in 2004. It stands at 3.3% in 2010, after declining in the past two years.

  Methaqualone, another sedative drug, has shown a trend pattern quite different from barbiturates. Methaqualone use rose among 12th graders from 1975 to 1981, when annual prevalence reached 7.6%. Its use then fell sharply, declining to 0.2% by 1993 before rising some during the general drug resurgence in the 1990s, although only to 1.1% by 1996. Prevalence rates have shown little consistent change since then, with use standing at 0.3% in 2010. Use also fell in the 1980s among young adults and college students, who had annual prevalence rates by 1989—the last year they were asked about this drug—of only 0.3% and 0.2%, respectively. In the late 1980s, shrinking availability may well have played a role in the decline, as legal manufacture and distribution of methaqualone ceased. Because of very low usage rates, only 12th graders are now asked about use of this drug. Methaqualone is one of the very few illegal drugs, the use of which has dropped to relatively negligible levels during the life of MTF. PCP is another.

- Clearly use of most of the several classes of ***psychotherapeutic drugs***—sedatives (barbiturates), tranquilizers, and narcotics other than heroin—has become a larger part of the nation's drug abuse problem. While the rise in use appears to have halted, most rates remain reasonably near to recent peak levels. During much of the 1990s and into the 2000s, we were seeing a virtually uninterrupted increase among 12th graders, college students, and young adults in the use of all of these drugs, which had fallen from favor from the mid-1970s through the early 1990s. Use then began rising in the early 1990s and continued to rise, even after the increase in use of most illegal drugs ended in the late 1990s and began to reverse.

- For many years, five classes of illicitly used drugs—***marijuana***, ***amphetamines***, ***cocaine***, ***LSD***, and ***inhalants***—had an impact on appreciable proportions of young Americans in their late teens and 20s. In 2010, twelfth graders showed annual prevalence rates for these drugs of 34.8%, 7.4%, 2.9%, 2.6%, and 3.6%, respectively, reflecting declines in most of

them, especially for LSD. Among college students in 2010, the comparable annual prevalence rates are 32.7%, 9.0%, 3.5%, 2.1%, and 1.7%; for all young adults the rates are 28.7%, 7.1%, 4.7%, 1.5%, and 1.2%. Because ***LSD*** use has fallen so precipitously since 2001 in all five populations, it no longer ranks as one of the major drugs of abuse, whereas ***narcotics other than heroin*** have become quite important due to the long-term rise in use that began in the 1990s. These narcotics now have annual prevalence rates of 7–9% among 12th graders, college students, and young adults. ***Tranquilizers*** have also become more important due to a similar rise in use, with prevalence rates in 2010 of about 5–6% across the same three populations, as have ***sedatives*** (***barbiturates***), with rates of 4.8%, 2.5% and 3.3%, respectively. The increase in use of these prescription-type drugs, combined with the decline in use of many illegal drugs, means that the use of prescription-type drugs clearly has become a more important part of the nation's drug problem.

- ***Ecstasy*** (***MDMA***) joined this set of long-established, more prevalent drugs for a period of time. However, annual prevalence rates for ecstasy dropped considerably between 2000 and 2009, from 3.1% to 1.3% for 8th graders, from 5.4% to 3.7% for 10th graders, from 8.2% to 4.3% for 12th graders, from 9.1% to 3.1% among college students, and from 7.2% to 3.1% among young adults. In 2010, however, ecstasy use increased some in all five populations, and significantly so among 8th and 10th graders, suggesting that this drug may be making a comeback; this increase may be at least partly due to generational forgetting, because the increase is greatest among the younger populations.

- In 8th grade, ***inhalants*** rank second only to marijuana among the illicitly used drugs in terms of annual and lifetime prevalence. Because the use of inhalants reflects a form of illicit psychoactive drug use, and because of its importance among the younger adolescents, an additional index of "any illicit drug use including inhalants" was introduced in Tables 2-1 through 2-3. The inclusion of inhalants makes relatively little difference in the illicit drug index prevalence rates for the older age groups, but considerable difference for the younger ones. For example, in 2010 the proportion of 8th graders reporting any illicit drug use in their lifetime, exclusive of inhalants, was 21%, whereas including inhalants raised the figure to 29%.

- Several drugs have been added to MTF's coverage in recent years, and they are all discussed in *Volumes I* and *II*. These include ***ketamine***, ***GHB***, and ***Rohypnol***, which are so-called "club drugs" (in addition to LSD and ecstasy). In general, these drugs have low prevalence rates that have declined over the past several years among 8th, 10th, and 12th graders: the 2010 annual prevalence rates for ***ketamine*** are 1.0%, 1.1%, and 1.6%, respectively; for ***GHB***, 0.6%, 0.6%, and 1.4%; and for ***Rohypnol***, 0.5% and 0.6% for 8th and 10th graders (the Rohypnol question for 12th graders was changed in 2002 and in 2010 stands at 1.5%). There was little change this year in the use of these three drugs except for a significant decrease in 10th graders use of GHB.

- The two narcotic drugs added to our coverage in 2002—***OxyContin*** and ***Vicodin***—show considerably higher prevalence rates, as noted earlier.

- In 2009 a question on past-year use of ***Adderall***, an amphetamine used to treat ADHD, was added to the MTF study for all three grades and for the follow-up respondents. The 2010 annual prevalence rates are 2.3%, 5.3%, 6.5%, 9.0%, and 7.0% for 8th, 10th, and 12th graders; college students; and young adults, respectively. The high rate of use among college students likely stems from its being used to stay awake and alert while studying for exams and doing assigned course work. While measured for only two years, Adderall use appears to be increasing among 12th graders and young adults.

- Questions on use of ***Provigil*** (a prescription stay-awake drug used for narcolepsy, shift work, etc.) and ***salvia*** (a plant-based psychoactive drug with dissociative effects, which is currently legal in most states) also were added to the 12th-grade and follow-up questionnaires in 2009. Salvia was added to the 8th and 10th grade questionnaires in 2010. Rates of Provigil use in the past year by 12th graders, college students, and young adults are 1.3%, 0.0%, and 0.5%, respectively, suggesting that this drug has not made serious inroads in terms of non-medically-supervised use. The 2010 rates for ***salvia*** are much higher: 1.7% among 8th graders, 3.7% among 10th graders, 5.5% among 12th graders, 3.6% for college students, and 3.4% for young adults. These relatively high rates suggest that the popularity of this drug had been growing; however, in the three older age groups for whom we have two years of data, there was no significant increase from 2009 to 2010.

- Two substances used primarily by males to develop physique and physical strength were added to the question set in 2001. One is ***androstenedione*** (a precursor to anabolic steroids), which could be purchased over the counter until early 2005. Among males, where use is heavily concentrated, the 2010 annual prevalence rates are 1.1%, 1.3%, and 2.3% in grades 8, 10, and 12, respectively. (Among females, the rates are 0.8%, 0.6%, and 0.7%.) As discussed in chapter 10 of *Volume I*, the proportion of young males who report past-year use of ***androstenedione*** and/or ***steroids*** was appreciable. In 2001, when the "andro" question was introduced, the annual prevalence rate for androstenedione and/or steroids was 8.0% for 12th-grade boys. The rate has fallen considerably in all three grades since then; in 2010 it was 4.0% among 12th-grade boys.

- Another physique-enhancing substance that is not a drug, but rather a type of protein supplement, is ***creatine***. Because we thought its use was often combined with the use of steroids and androstenedione, we introduced a question on it in 2001 and found prevalence of use to be very high. Among males, who again are the primary users, the 2010 annual prevalence for creatine is 3.7%, 11.0%, and 17.7% in grades 8, 10, and 12. In other words, one in every six 12th-grade boy had used creatine in the prior year. (For girls, the rates are far lower at 0.4%, 1.0%, and 1.2%, respectively.)

- Beginning in 1982, MTF included a set of questions about the use of *nonprescription* stimulants, including stay-awake pills, diet pills, and the so-called "look-alikes" (see chapter 10 of *Volume I* for more detailed findings). One important finding shown in that chapter (Table 10-3) is that the use of each of these over-the-counter substances is correlated positively with the respondent's use of illicit drugs. In other words, there is a

more general propensity to use or not use psychoactive substances, regardless of their legal status.[8]

- The annual prevalence among 12th graders of over-the-counter ***stay-awake pills***, which usually contain caffeine as their active ingredient, nearly doubled between 1982 and 1988, increasing from 12% to 26%. After 1988 this statistic fell considerably; it is still falling, reaching 3.2% by 2010, the lowest level ever reported. Use has also declined among the college-age young adult population (ages 19 to 22), from a peak of 26% in 1989 to a low of 4.9% in 2010. (Data for young adults are not shown.)

- The ***look-alike stimulants*** have also shown considerable falloff since we first measured their use in 1982. Among 12th graders, annual prevalence decreased from 10.8% in 1982 to 5.2% in 1991. Their use rose only slightly during the relapse phase of the illicit drug epidemic in the 1990s, reaching 6.8% in 1995—roughly where it stayed through 2001. Since then the use of look-alikes has fallen to 1.7% by 2010, the lowest level ever reported. (This question was dropped from the follow-up surveys in 2009.)

- Among 12th graders, annual prevalence rates for over-the-counter ***diet pills*** declined from 15% to 8% in 1993 increased to 15% by 2002, then declined significantly to 4.3% in 2010, the lowest point since the questions were added in 1982. (Among 12th-grade girls in 2010, 11% had tried diet pills by the end of senior year, 6% used them in the past year, and 2% used them in just the past 30 days.) Among young adults ages 19 to 22, annual prevalence rates declined from 17% to 7% between 1986 and 1995, rose back to 17% by 2002, and then declined again to stand at 9% in 2010.

- One additional type of over-the-counter drug was added to the 8th-, 10th-, and 12th-grade questionnaires in 2006—***dextromethorphan***, a cough suppressant found in many cough and cold medications. Respondents were asked, "How often have you taken cough or cold medicines to get high?" The proportions indicating such use in the prior 12 months were 4%, 5%, and 7% in grades 8, 10, and 12 in 2006—not inconsequential proportions. In 2010, the rates were about the same (3%, 5%, and 7%).

College–Noncollege Differences in Illicit Drug Use

- For analytic purposes, "college students" are defined here as those respondents one to four years past high school who are actively enrolled full-time in a two- or four-year college in March of the year of the survey. For nearly all categories of illicit drugs, college students show *lower* rates of use than their age-mates not in college. However, for a few categories of drugs—including ***any illicit drug***, ***marijuana***, and ***hallucinogens***—college students show annual usage rates that are about average for all high school graduates their age. (College students are about average on the index of any illicit drug use because they have average rates of marijuana use, which largely drives the index.)

[8]For a more extended discussion and documentation of this point, see Johnston, L.D. (2003). Alcohol and illicit drugs: The role of risk perceptions. In Dan Romer (Ed.), *Reducing adolescent risk: Toward an integrated approach* (pp. 56-74). Thousand Oaks, CA: Sage. Download at http://www.monitoringthefuture.org/pubs/chapters/ldj2003.pdf.

- Although college-bound 12th graders have generally had below-average rates of use on *all* of the ***illicit drugs*** while they were in high school, these students' eventual use of some illicit drugs attained equivalence with, or even exceeded, the rates of their age-mates who do not attend college. As MTF results have shown, this college effect of "catching up" is largely explainable in terms of differential rates of leaving the parental home after high school graduation and of getting married. College students are more likely than their age peers to have left the parental home, and they tend to defer marriage, leaving them comparatively unconstrained.[9]

- In general, the substantial decline in ***illicit substance use*** among American college students after 1980 has paralleled that of their age peers not in college. Further, for the twelve-year period 1980 to 1992, all young adult high school graduates through age 28, as well as college students taken separately, showed trends that were highly parallel (for the most part) to trends among 12th graders (see chapter 9 of *Volume II*). After 1992, a number of drugs showed an increase in use among 12th graders (as well as 8th and 10th graders), but not among college students and young adults for some period of time.

  This divergence, combined with the fact that the upturn began first among 8th graders (in 1992), suggests that cohort effects were emerging for illicit drug use, as discussed earlier. Indeed, as those heavier using cohorts of 12th graders entered the college years, we saw a lagged increase in the use of several drugs in college. For example, annual prevalence reached a low point among 12th graders in 1992 for a number of drugs (e.g., ***cocaine***, ***amphetamines***, ***sedatives*** [***barbiturates***], ***tranquilizers***, ***narcotics other than heroin***, and ***any illicit drug other than marijuana***) before rising thereafter. Among college students, those same drugs reached a low two years later in 1994, and then began to rise gradually. Then, in 1998, as ***marijuana*** use already was declining in secondary school, we saw a sharp increase in its use among college students. Consistent with our earlier predictions, the evidence for cohort effects resulting from generational replacement is quite substantial.

Male–Female Differences in Illicit Drug Use

- Regarding gender differences in the three older populations (12th graders, college students, and young adults), males are more likely to use most *illicit drugs*, and the differences tend to be largest at the higher frequency levels. For example, 2010 ***daily marijuana*** use rates among 12th graders are 8.8% for males versus 3.2% for females; among all young adults (ages 19 to 30) the rates are 7.2% for males versus 3.6% for females; and among college students the rates are 6.7% for males versus 2.8% for females.

- The 8th- and 10th-grade samples evidence fewer and smaller gender differences in the use of drugs—perhaps because girls tend to date and then emulate older boys, who are in

[9]Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities.* Mahwah, NJ: Lawrence Erlbaum Associates. See also Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Bryant, A. L., & Merline, A. C. (2002). *The decline of substance use in young adulthood: Changes in social activities, roles, and beliefs.* Mahwah, NJ: Lawrence Erlbaum Associates.

age groups considerably more likely to use drugs. While the rate of prior-year ***marijuana*** use is slightly higher for males, the rate for the use of ***any illicit drug other than marijuana*** generally has tended to be slightly higher for females, though this difference did not hold in 2010. There is little gender difference in 8th and 10th grades in the use of ***ecstasy*** (***MDMA***), ***cocaine***, ***crack***, ***other cocaine***, ***heroin***, and ***methamphetamines***. The use of ***inhalants***, ***amphetamines***, ***tranquilizers***, ***alcohol*** (except in 10th grade), and ***flavored alcoholic beverages*** is slightly higher among females in those grades. Alcohol use to the point of ***being drunk*** is slightly higher among males.

TRENDS IN ALCOHOL USE

- Several findings about ***alcohol*** use in these age groups are noteworthy. First, despite the fact that it is illegal for virtually all secondary school students and most college students to purchase alcoholic beverages, they have a substantial amount of experience with alcohol. Alcohol has been tried by 36% of current 8th graders, 58% of 10th graders, 71% of 12th graders, 82% of college students, and 88% of young adults; current use is also widespread. Most important, perhaps, is the prevalence of ***occasions of heavy drinking***—five or more drinks in a row at least once in the prior two-week period—which was reported by 7% of 8th graders, 16% of 10th graders, 23% of 12th graders, and 37% of college students and 36% of young adults (19- to 28-years-old) who were surveyed in 2010. Heavy drinking peaks in the early 20s, and recedes with age after that, reflected by the 33% rate found among 29- to 30-year-olds.

  Alcohol use did not increase as use of other illicit drugs decreased among 12th graders from the late 1970s to the early 1990s, although it was common to hear such a "displacement hypothesis" asserted. MTF demonstrates that the opposite seems to be true. After 1980, when illicit drug use was declining, the ***monthly prevalence of alcohol use*** among 12th graders also declined gradually, but substantially, from 72% in 1980 to 51% in 1992. ***Daily alcohol use*** declined by half over the same interval, from a peak of 6.9% in 1979 to 3.4% in 1992; the prevalence of drinking ***five or more drinks in a row*** during the prior two-week interval fell from 41% in 1983 to 28% in 1993—nearly a one-third decline. When illicit drug use rose again in the 1990s, alcohol use (particularly binge drinking) rose some as well—albeit not as sharply as marijuana use. In the late 1990s, as illicit drug use leveled in secondary schools and began a gradual decline, similar trends were observed for alcohol. Therefore, long-term evidence indicates that alcohol use moves much more in concert with illicit drug use than counter to it.

College–Noncollege Differences in Alcohol Use

- Trends in ***alcohol*** use among college students are quite different than those for 12th graders or noncollege respondents of the same age as the college students (see Figure 9-14 in *Volume II*). From 1980 to 1993, college students showed considerably less drop-off in monthly prevalence of ***alcohol*** use (82% to 70%) than did 12th graders (72% to 51%), and also less decline in ***occasions of heavy drinking*** (from 44% to 40%) than either 12th graders (41% to 28%) or their noncollege age-mates (41% to 34%). Because both the noncollege 19- to 22-year-olds and high school students were showing greater declines,

the college students stood out as having maintained a high rate of episodic heavy (or binge) drinking. Since 1993, this behavior has changed little among college students—their rate of binge drinking in 2010 was 37%, almost the same as their 1993 rate—whereas the rate among noncollege age-mates decreased to 28% in 2010. The 12th graders' rate, after increasing to 32% in 1998, dropped to 25% by 2006 where it remained through 2009: it then declined significantly to 23% in 2010. College students continue to stand out as having a relatively high rate of binge drinking.

Although college-bound 12th graders are consistently less likely than their non-college-bound counterparts to report occasions of heavy drinking, the higher rates of such drinking among college students compared to noncollege peers indicate that these 12th graders catch up to and pass their peers in binge drinking after high school graduation. As stated above, we have shown that this differential change after high school is largely attributable to the fact that college students are more likely to leave the parental home and less likely to get married in the four years after high school graduation than their age mates. An MTF journal article also shows that membership in a fraternity or sorority tends to increase heavy episodic drinking and marijuana use in college.[10]

- Since 1980, college students have generally had ***daily drinking*** rates that were slightly lower than their age peers, suggesting that they were more likely to confine their drinking to weekends, when they tend to drink a lot. The rate of daily drinking among the noncollege group fell from 8.3% in 1980 to 3.2% in 1994, rose to 5.8% by 2000, and dropped back to 3.4% in 2010. Daily drinking by the college group also dropped in approximately the same time period, from 6.5% in 1980 to 3.0% in 1995, then increased to 5.0% in 2002; since then it has remained at 4% to 5%.

Male–Female Differences in Alcohol Use

- Given that the physiological impacts of five drinks are considerably greater for the typical young female versus the typical young male, it is not surprising that we find substantial gender differences in the prevalence of having ***five or more drinks in a row.*** Among 12th graders, the rates in 2010 are 18% for females versus 28% for males. This difference has generally been diminishing since MTF began; in 1975 there was a 23-percentage-point difference, versus a 10-point difference in 2010.

- Among college students and young adults generally, there are also substantial gender differences in alcohol use, with college males drinking the most. In 2010, for example, nearly half (44%) of all college males reported having ***five or more drinks in a row*** over the previous two weeks versus less than one third (32%) of college females. Since MTF began, this gender difference has narrowed gradually, with the rate declining somewhat for males and increasing somewhat for females.

[10]McCabe, S. E., Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Kloska, D. D. (2005). Selection and socialization effects of fraternities and sororities on U.S. college student substance use: A multi-cohort national longitudinal study. *Addiction, 100,* 512–524.

- College males report considerably higher rates of ***daily drinking*** than college females (5.6% vs. 2.3% in 2010). This gender difference also exists in the noncollege group (5.5% vs. 1.8% in 2010).

TRENDS IN CIGARETTE SMOKING

A number of very important findings about ***cigarette smoking*** among American adolescents and young adults have emerged during the life of the study, and we believe that one of the study's more important contributions to the long-term health of the nation has been to document and call public attention to these trends. Despite the demonstrated health risks associated with smoking, young people have continued to establish regular cigarette habits during late adolescence in sizeable proportions, and, during the first half of the 1990s, in growing proportions. In fact, since MTF began in 1975, cigarettes have consistently remained the class of abusable substances most frequently used on a daily basis by high school students.

- During most of the 1980s, when smoking rates were falling steadily among adults, we reported that smoking among adolescents was not declining. Then the situation went from bad to worse. Among 8th and 10th graders, the ***current*** (***past 30-day***) ***smoking*** rate increased by about half between 1991 (when their use was first measured) and 1996; among 12th graders, the current smoking rate rose by nearly one third between 1992 and 1997. MTF played an important role in bringing these disturbing increases in adolescent smoking to public attention during those years, which was the historical period in which major social action was initiated in the White House, the Food & Drug Administration, the Congress, and eventually the state attorneys general, culminating in the 1998 Tobacco Master Settlement agreement between the industry and the states.

  Fortunately—and largely as a result of that settlement, we believe—there have been some important declines in current smoking since 1996 among 8th and 10th graders, and since 1997 among 12th graders. In fact, the declines more than offset the increases observed earlier in the 1990s. In 2009, 7% of 8th graders (down from 14% in 1991 and 21% in 1996) reported smoking one or more cigarettes in the prior 30 days—a decline of two thirds from the recent peak rate. Some 13% of 10th graders were current smokers in 2009 (down from 21% in 1991 and 30% in 1996), representing a drop of nearly six tenths from the recent peak rate. And in 2010, 19% of 12th graders were current smokers (versus 28% in 1991 and 37% in 1997), representing a drop of nearly half from the recent peak. In recent years these declines decelerated, however, and have stopped among 8th and 10th graders in 2010 and may have begun to reverse. They have not yet ended among 12th graders, however. Some of the important attitudinal changes that accompanied these declines in use ended a few years ago, leading us to conclude that further improvement in smoking rates will likely have to come from changes in the environment—for example, such policies as raising taxes, further reducing the places in which smoking is permitted, and offering quit-smoking programs. Despite these very important improvements in the past decade and a half, nearly one fifth of today's young Americans are current smokers by the time they complete high school. Other research consistently shows that smoking

rates are substantially higher among those who drop out before graduating, so the estimates based on high school seniors are low for the age cohort as a whole.[11]

Among college students, the peak rate in current smoking was not reached until 1999 (31%), but after that it declined only moderately (to 24% in 2005) until 2006, when a significant decline brought it down to 19%; and then to 16% by 2010; this reflects a decline of almost half from the recent peak so far. Young adults 19 to 28 years old have shown more modest change in rates of current smoking between 2001 (30%) and 2010 (22%)—a decline of about one fourth. However, we would expect that, as the cohort effects continue to work their way up the age spectrum, smoking will decrease more in this age group as well.

The dangers that survey participants perceive to be associated with ***pack-a-day smoking*** differ greatly by grade level, and seem to be unrealistically low at all grade levels. Currently, three quarters of 12th graders (75%) report that pack-a-day smokers run a great risk of harming themselves physically or in other ways, but only 61% of the 8th graders say the same. All three grades showed a decrease in perceived risk between 1993 and 1995, as use was rising rapidly, but a slightly larger and offsetting increase in perceived risk occurred between 1995 and 2000, presaging the subsequent downturn in smoking. Since 2000 there has been a slight upward drift in perceived risk at all three grade levels, but it leveled off after 2004 in the lower grades and after 2006 at 12th grade.

- Disapproval of ***cigarette smoking*** was in decline for a long period: from 1991 through 1996 among 8th and 10th graders, and from 1992 to 1996 among 12th graders. Since then there has been a fairly steady increase in disapproval of cigarette smoking in all three grades—at least until 2007 or 2008, when the increase halted. Undoubtedly the heavy media coverage of the tobacco issue (the settlement with the state attorneys general, the congressional debate, the eventual state settlements, etc.) had an important influence on these attitudes and beliefs. However, that coverage diminished considerably in 1998, raising the question of whether those changes in youth attitudes would continue. It may well be, of course, that the removal of certain kinds of cigarette advertising and promotion, combined with national- and state-level antismoking campaigns and subsequent significant increases in cigarette prices, have served to sustain and prolong these changes. In terms of media effects, MTF has shown important changes, including more recent substantial declines, in reported recall by students of antismoking ads resulting from both state and national campaigns.[12]

[11]For a recent analysis showing much higher smoking rates among 8th graders who later dropped out before completing high school, see Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education–drug use connection: How successes and failures in school relate to adolescent smoking, drug use, and delinquency*. New York: Lawrence Erlbaum Associates/Taylor & Francis.

[12]Johnston, L. D., Terry-McElrath, Y. M., O'Malley, P. M., & Wakefield, M. (2005). Trends in recall and appraisal of anti-smoking advertising among American youth: National survey results, 1997–2001. *Prevention Science, 6,* 1–19.

Age- and Cohort-Related Differences in Cigarette Smoking

- Initiation of smoking occurs most often in grades 6 through 9 (i.e., at modal ages 11–12 to 14–15), although according to the 2010 eighth graders, 6% had already initiated smoking before grade 6. The initiation rate trails off considerably by 12th grade, although, as we have shown in our follow-up studies, a number of the light smokers in 12th grade make the transition to heavy smoking in the first two years after high school. Analyses presented in this volume and elsewhere have shown that cigarette smoking evidences a clear cohort effect. That is, if a class (or birth) cohort establishes an unusually high rate of smoking at an early age relative to other cohorts, the rate is likely to remain high throughout the life cycle relative to that of other birth cohorts at equivalent ages.

- As we reported in the "Other Findings from the Study" chapter in the 1986 volume in this series, some 53% of 12th graders who were half-pack-a-day (or more) smokers in senior year in 1985 said that they had tried to quit smoking but could not. Of those who had been daily smokers in 12th grade, nearly three quarters were still daily smokers seven to nine years later (based on the 1985 follow-up survey), despite that in high school only 5% thought they would "definitely" be smoking five years hence. A subsequent analysis, based on the 1995 follow-up survey, showed similar results. Nearly two thirds (63%) of those who had been daily smokers in 12th grade were still daily smokers seven to nine years later, although in high school only 3% of them had thought they would "definitely" be smoking five years hence. Clearly, the smoking habit is established at an early age, is difficult to break for those young people who have initiated use, and young people greatly overestimate their own ability to quit. Additional data from 8th- and 10th-grade students show us that younger adolescents are even more likely than older ones to seriously underestimate the dangers of smoking.

- MTF surveys of 8th and 10th graders also show that cigarettes are readily available to teens in 2010, even though perceived availability has been dropping for some years for these age groups: 56% of 8th graders and 76% of 10th graders say that cigarettes would be "fairly easy" or "very easy" for them to get, if they wanted them. There was little change in reported availability between 1992 (when these questions were first asked) and 1997. After that, however, perceived availability of cigarettes decreased significantly for 8th and 10th graders, quite likely reflecting the impact of new regulations and related enforcement efforts aimed at reducing the sale of cigarettes to children (including the Synar amendment, which required states to pass and enforce laws prohibiting the sale and distribution of tobacco products to persons under 18).[13] (Twelfth graders are not asked this question.)

College–Noncollege Differences in Cigarette Smoking

- A striking difference in smoking rates has long existed between college-bound and non-college-bound 12th graders. For example, in 2010, smoking a half pack or more per day

[13]For a more detailed examination of recent changes in youth access to cigarettes, see Johnston, L. D., O'Malley, P. M., & Terry-McElrath, Y. M. (2004). Methods, locations, and ease of cigarette access for American youth, 1997–2002. *American Journal of Preventive Medicine, 27*, 267–276.

is about four times as prevalent among the non-college-bound 12th graders as among the college bound (12.0% vs. 3.1%). Among respondents of college age (one to four years past high school), those not in college also show dramatically higher rates of half-pack-a-day smoking than those who are in college—15.0% versus 3.9%, respectively. Clearly, these important differences precede college attendance.

In the first half of the 1990s, smoking rose among college students and their same-age peers, although the increases were not as steep for either group as they were among 12th graders. But in 1998 and 1999, while smoking was declining among secondary school students at all grades, smoking increased significantly for college students, no doubt reflecting the cohort effect from earlier, heavier smoking classes of 12th graders moving into the older age groups. Between 1991 and 1999, the 30-day prevalence of cigarette smoking by college students rose from 23% to 31%, or by about one third, and daily smoking rose from 14% to 19%, also by about one third. The year 2000 showed, for the first time in several years, a decline in college student smoking; that continued with a significant decline to 23% in 2003, and another significant decline to 19% in 2006. The rate in 2010 was 16%. (Because of the smaller numbers of cases in the college student samples, the trend lines are not always as smooth as they are for most of the other groups discussed here.) A much more modest decline has also been observed among their noncollege peers, but only since 2001. A number of in-depth analyses of MTF panel data have revealed that the differences in smoking rates between those who do and do not attend college are evident by the end of 12th grade and have their roots in earlier educational successes and failures.[14]

Male–Female Differences in Cigarette Smoking

- In the 1970s, 12th-grade females caught up to and passed 12th-grade males in rates of ***current smoking***. Both genders then showed a decline in use followed by a long, fairly level period, with use by females consistently higher, but with the gender difference diminishing. In the early 1990s, another crossover occurred when rates rose more among males than females, and males have been consistently slightly higher in rates of current smoking since 1991 among 12th graders. In the lower grades, the genders have had similar smoking rates since their use was first measured in 1991, although in the past couple of years a small difference has emerged, with slightly more males smoking than females.

- Among college students, females had a slightly higher probability of being daily smokers from 1980 through 1994—although this long-standing gender difference was not seen among their age peers who were not in college. However, a crossover occurred between 1994 and 2001, with college males exceeding college females in daily smoking—an echo

[14]Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities*. Mahwah, NJ: Lawrence Erlbaum Associates. Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Bryant, A. L., & Merline, A. C. (2002). *The decline of substance use in young adulthood: Changes in social activities, roles, and beliefs*. Mahwah, NJ: Lawrence Erlbaum Associates. Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education–drug use connection: How successes and failures in school relate to adolescent smoking, drinking, drug use, and delinquency*. New York: Lawrence Erlbaum Associates/Taylor & Francis.

of the crossover among 12th graders in 1991. Since about 2001 there has been little consistent gender difference in smoking among college students.

RACIAL/ETHNIC COMPARISONS

The three largest ethnic groups in the population—Whites, African Americans, and Hispanics—are examined here for 8th, 10th, and 12th graders. (Sample size limitations simply do not allow accurate characterization of smaller racial/ethnic groups unless data from multiple years are combined. Separate publications from the study have done just that.) A number of interesting findings emerge from the comparison of these three groups; the reader is referred to chapters 4 and 5 of *Volume I* for a full discussion and to appendix D of *Volume I* for tabular documentation across all drugs.[15] The trends for these three subgroups are also presented graphically in an occasional paper available online, which is the easiest way to digest the very rich and varied data available on subgroups.[16]

- African-American 12th graders have consistently shown lower usage rates than White 12th graders for most drugs, both licit and illicit. At the lower grade levels, where few have yet dropped out of school, African-American students also have lower usage rates for many drugs, though not all. The differences are quite large for some drugs, including ***inhalants***, ***LSD***, ***hallucinogens other than LSD***, ***ecstasy***, ***powder cocaine***, ***narcotics other than heroin***, ***OxyContin***, ***Vicodin***, ***amphetamines***, ***Adderall*** specifically, ***methamphetamine***, and ***tranquilizers***.

- African-American students currently have a much lower 30-day prevalence rate of ***cigarette smoking*** than White students (10% vs. 23% among 12th graders in 2010), partly because their smoking rate declined from 1980 to 1992, while the rate for White students remained fairly stable. After 1992, smoking rates rose among both White and African-American 12th graders, but less among African Americans. After 1996 (or 1998 in the case of 12th graders) smoking among White students showed a sharp and continuing decline in all three grades for some years, which considerably narrowed the

[15]We periodically publish comparisons that contain a number of the smaller racial/ethnic groups in the population, based on data combined for a number of contiguous years in order to attain adequate sample sizes. The first was Bachman, J. G., Wallace, J. M., Jr., O'Malley, P. M., Johnston, L. D., Kurth, C. L., & Neighbors, H. W. (1991). Racial/ethnic differences in smoking, drinking, and illicit drug use among American high school seniors, 1976–1989. *American Journal of Public Health, 81*, 372–377. More recent articles are: Wallace, J. M., Jr., Bachman J. G., O'Malley, P. M., Johnston, L. D., Schulenberg, J. E., & Cooper, S. M. (2002). Tobacco, alcohol and illicit drug use: Racial and ethnic differences among U.S. high school seniors, 1976–2000. *Public Health Reports, 117 (Supplement 1),* S67–S75; Wallace, J. M., Jr., Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Cooper, S. M., & Johnston, L. D. (2003). Gender and ethnic differences in smoking, drinking, and illicit drug use among American 8th, 10th, and 12th grade students, 1976–2000. *Addictions, 98*, 225–234; and Delva, J., Wallace, J. M., Jr., O'Malley, P. M., Bachman, J. G., Johnston, L. D., & Schulenberg, J. E. (2005). The epidemiology of alcohol, marijuana, and cocaine use among Mexican American, Puerto Rican, Cuban American, and other Latin American 8th-grade students in the United States: 1991–2002. *American Journal of Public Health, 95*, 696–702.

[16]Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2011). *Demographic subgroup trends for various licit and illicit drugs, 1975–2010* (Monitoring the Future Occasional Paper No. 74) [Online]. Ann Arbor, MI: Institute for Social Research. Available: http://www.monitoringthefuture.org/pubs/occpapers/mtf-occ74.pdf. See also Bachman, J. G., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (2010). *Impacts of parental education on substance use: Differences among White, African-American, and Hispanic students in 8th, 10th, and 12th grades (1999–2008)* (Monitoring the Future Occasional Paper No. 70). Ann Arbor, MI: Institute for Social Research. Available: http://www.monitoringthefuture.org/pubs/occpapers/occ70.pdf.

smoking differences between the races, despite some decline among African Americans as well; but there remain substantial differences. Smoking rates among Hispanic students have tended to fall in between the other two groups in the upper grades, and track close to the White smoking rates at 8th grade.

- In 12th grade, ***occasions of heavy drinking*** are much less likely to be reported by African-American students (13%) than White (28%) or Hispanic students (22%).

- In 12th grade, of the three racial/ethnic groups, Whites tend to have the highest rates of use on a number of drugs, including ***marijuana***, ***salvia***, ***hallucinogens***, ***LSD*** specifically, ***hallucinogens other than LSD***, ***narcotics other than heroin***, ***OxyContin*** specifically, ***Vicodin*** specifically, ***amphetamines***, ***Ritalin*** specifically, ***Adderall*** specifically, ***sedatives*** (***barbiturates***), ***tranquilizers***, ***alcohol***, ***getting drunk***, ***flavored alcoholic beverages***, ***cigarettes***, and ***smokeless tobacco***.

- Hispanics have tended to have the highest usage rate in terms of annual prevalence in 12th grade for a number of the most dangerous drugs, such as ***crack***, ***crystal methamphetamine*** (***ice***), ***heroin*** in general and ***heroin with a needle*** (though in 2009–2010, specifically, Whites were highest for heroin use and African Americans were highest for heroin use with a needle). Further, in 8th grade, Hispanics have the highest rate of illicit drug use overall and the highest rates for most drugs (though not for ***amphetamines***, ***Ritalin*** or ***Adderall*** specifically). For example, in 8th grade, the 2009–2010 annual prevalence of ***marijuana*** use for Hispanics is 15%, versus 12% for Whites and 14% for African Americans; the two-week prevalence of ***binge drinking*** is 11% for Hispanics, 7% for Whites, and 5% for African Americans. Hispanics have the highest rates of use for many drugs in 8th grade, but not for as many in 12th, which suggests that their considerably higher dropout rate (compared to Whites and African Americans) may change their relative ranking by 12th grade.

- With regard to trends, 12th graders in all three racial/ethnic groups exhibited a decline in ***cocaine*** use from 1986 through 1992, although the decline was less steep among African-American 12th graders because their earlier increase in use was not as large as the increase among White and Hispanic students.

- For virtually ***all of the illicit drugs***, the three groups have tended to trend in parallel. Because White 12th graders had the highest level of use on a number of drugs—including ***amphetamines***, ***sedatives*** (***barbiturates***), and ***tranquilizers***—they also had the largest declines; African Americans have had the lowest rates and, therefore, the smallest declines.

- For a more detailed consideration of racial/ethnic differences in substance use, see the last section of chapter 5 in *Volume I*.

DRUG USE IN EIGHTH GRADE

It is useful to focus specifically on the youngest age group in the study—the 8th graders, most of whom are 13 or 14 years old—in part because the worrisome levels of both licit and illicit drug use that they report help illustrate the nation's urgent need to continue to address the substance abuse problems among its youth. Further, it is a well established fact at this point that the earlier that young people start to use drugs, both licit and illicit, the more likely it is that adverse outcomes will flow from their use.[17,18]

- Among 8th graders in 2010, 36% report having tried ***alcohol*** (more than just a few sips), and nearly one in six (16%) say they have already been ***drunk*** at least once.

- One fifth of 8th graders in 2010 (20%) have tried ***cigarettes***, and one in fourteen (7.1%) say they have smoked in the prior month. Shocking to many adults is the fact that only 61% of 8th graders recognize that there is great risk associated with smoking one or more packs of cigarettes per day. While an increasing proportion will recognize the risk by 12th grade, for many this is too late, because they will have developed a smoking habit by then.

- ***Smokeless tobacco*** has been tried by 15% of male 8th graders in 2010, was used in the past month by 6.3%, and was used daily by 1.5%. (Rates are much lower among females.)

- One 8th grader in seven (15%) reported using ***inhalants***, and 1 in 28 (3.6%) reported inhalant use in just the month prior to the 2010 survey. This is the only class of drugs for which use is substantially higher in 8th grade than in 10th or 12th grade.

- ***Marijuana*** has been tried by one in every six 8th graders (17%) and has been used in the prior month by about 1 in every 13 (8.0%). Some 1.2% actively use it on a daily or near-daily basis in 8th grade.

- A surprisingly large number of 8th graders (5.7%) say they have tried prescription-type ***amphetamines*** without medical instruction; 1.8% say they have used them in the prior 30 days.

- For most of the ***other illicit drugs***, relatively few 8th graders in 2010 say they have tried them. (This is consistent with the retrospective reports from 12th graders concerning the grades in which they first used the various drugs.) But the proportions having at least some experience with them is not inconsequential. Even a rate as low as 3% represents about one child in every 30-student classroom. The 2010 eighth-grade proportions

[17]Merline, A.C., O'Malley, P.M., Schulenberg, J.E., Bachman, J.G., & Johnston, L.D. (2004). Substance use among adults 35 years of age: Prevalence, adulthood predictors, and impact of adolescent substance use. *American Journal of Public Health, 94,* 96-102.

[18]Zucker, R. A. (2006). Alcohol use and the alcohol use disorders: A developmental-biopsychosocial systems formulation covering the lifecourse. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology:Vol. 3. Risk, disorder, and adaptation* (2nd ed., pp. 620–656). Hoboken, NJ: Wiley.

reporting any lifetime experience with the other illicit drugs are: ***tranquilizers*** (4.4%), ***ecstasy*** (3.3%), ***hallucinogens other than LSD*** (2.7%), ***cocaine other than crack*** (2.1%), ***LSD*** and ***methamphetamine*** (both at 1.8%), ***crack*** (1.5%), ***heroin*** (1.3%), ***steroids*** (1.1% overall, and 1.3% among males), and ***Rohypnol*** (0.9%).

- In total, 29% of all 8th graders in 2010 have tried some ***illicit drug*** (including inhalants), while 11%, or one in nine, have tried ***some illicit drug other than marijuana*** or ***inhalants***. Put another way, in an average 30-student classroom of 8th graders, about nine have used some illicit drug other than marijuana including inhalants, and about three have used some illicit drug other than marijuana or inhalants.

- The very large number of 8th graders who have already begun using the so-called "gateway drugs" (***tobacco***, ***alcohol***, ***inhalants***, and ***marijuana***) suggests that a substantial number are also at risk of proceeding further to such drugs as LSD, cocaine, amphetamines, and heroin.

DRUG USE BY AGE 50

Because we have now followed graduating 12th graders into their 50s, we can characterize the drug-using history of today's 50-year-olds (at least those who are high school graduates). This is important, not only because it shows how use by these respondents has developed over the three decades since they left high school, but also because most of them are now themselves the parents of adolescents and young adults. Their own past experiences with drug use may complicate communications with their children regarding drugs; worse, the continuing active use of substances by some of them may set an unfortunate example. The level of lifetime use they have attained is striking (see chapter 4 of *Volume II* for greater detail and discussion).

- Among 50-year-old high school graduates in 2010, we estimate that about three-quarters (75%) have tried ***marijuana***, and that about two-thirds (66%) have tried an ***illicit drug other than marijuana***. (These estimates are adjusted to correct for panel attrition, as described in chapter 4 of *Volume II*.)

  Their current behavior is far less extreme than those statistics might suggest, but it is not by any means negligible. One in nine (11%) indicates using ***marijuana*** in the last 12 months, and the same proportion indicate using ***any other illicit drug*** in the same period. Their past-month prevalence rates are lower—6.8% and 6.0%, respectively, for marijuana and any other illicit drug. About 1 in 45 (2.2%) is a ***current daily marijuana*** user, though substantially more indicate that they have used marijuana daily at some time in the past.

- Quite high proportions of 50-year-old respondents in 2010 have had some experience during their lifetime of using (outside of medical regimen) several of the specific illicit drugs other than marijuana. These include ***cocaine*** in any form (40%), ***amphetamines*** (39%), ***tranquilizers*** (29%), ***narcotics other than heroin*** (26%), ***sedatives*** (***barbiturates***) (24%), and ***hallucinogens*** of any type (20%). In sum, today's adults in their 50s tend to be a very drug-experienced segment of the population, as might be expected due to the

fact that they graduated from high school near the peak of the drug epidemic. To repeat, 75% have tried marijuana and 66% have tried some illicit drug other than marijuana.

- Illicit drugs other than marijuana that have been used in just the prior 12 months by this age group (outside of medical regimen) include ***narcotics other than heroin*** (4.7%), ***tranquilizers*** (3.8%), ***cocaine*** (1.8%), and ***noncrack forms of cocaine*** (1.4%). Little active use is reported by these respondents for ***amphetamines***, ***crack***, or ***heroin***. (Of course, we would not expect many *heavy users* of heroin or crack to have remained in the panel studies for this long.)

- ***Alcohol*** consumption is relatively high among 50-year-olds, with two thirds (67%) indicating that they consumed at least one alcoholic drink in the prior 30 days, 11% reporting current ***daily drinking*** (defined as drinking on 20 or more occasions in the prior 30 days), and 18% indicating ***recent occasions of heavy drinking*** (defined as five or more drinks in a row on at least one occasion in the prior two weeks). The rate of recent occasions of heavy drinking is much lower than was exhibited by members of this cohort when they were of high school and college ages.

- About one in five (20%) 50-year-old high school graduates currently smokes ***cigarettes***. Almost all of those are current ***daily smokers*** (18%).

SUMMARY AND CONCLUSIONS

We can summarize the findings on trends as follows: For more than a decade—from the late 1970s to the early 1990s—the use of a number of ***illicit drugs*** declined appreciably among 12th-grade students, and declined even more among American college students and young adults. These substantial improvements—which seem largely explainable in terms of changes in attitudes about drug use, beliefs about the risks of drug use, and peer norms against drug use—have some extremely important policy implications. One clear implication is that these various substance-using behaviors among American young people are malleable—they *can* be changed. It has been done before. The second is that demand-side (rather than supply-side) factors appear to have been pivotal in bringing about most of those changes. The levels of ***marijuana*** availability, as reported by 12th graders, have held fairly steady throughout the life of the study. (Moreover, among students who abstained from marijuana use, as well as among those who quit, availability and price rank very low on their lists of reasons for not using.) And, in fact, the perceived availability of ***cocaine*** was actually rising during the beginning of the sharp decline in cocaine and crack use in the mid- to late- 1980s, which occurred when the perceived risk associated with that drug rose sharply. (See the last section of chapter 9, *Volume I*, for more examples and further discussion of this point.)

However, improvements are surely not inevitable; and when they occur, they should not be taken for granted. Relapse is always possible and, indeed, just such a relapse in the longer term epidemic occurred during the early to mid-1990s, as the country let down its guard on many fronts. (See chapter 8 of *Volume I* for a more detailed discussion.)

In 1992, eighth graders exhibited a significant increase in annual use of ***marijuana***, ***cocaine***, ***LSD***, and ***hallucinogens other than LSD***, as well as an increase in ***inhalant*** use. (In fact, all five populations showed some increase in ***LSD*** use, continuing a longer term trend for college students and young adults.) Further, the attitudes and beliefs of 12th graders regarding drug use began to soften.

In 1993, use of several drugs began to rise among 10th and 12th graders, as well, fulfilling our earlier predictions based on their eroding beliefs about the dangers of drugs and their decreasing disapproval of drug use. Increases occurred in a number of the so-called "gateway drugs"—***marijuana***, ***cigarettes***, and ***inhalants***—that we argued boded ill for the later use of other drugs in the usual sequence of drug use involvement. Indeed, the proportion of students reporting the use of ***any illicit drug other than marijuana*** rose steadily after 1991 among 8th and 10th graders and after 1992 among 12th graders. (The proportions using increased by more than half among 8th graders, with annual prevalence rising from 8.4% in 1991 to 13.1% in 1996.) The softening attitudes about ***crack*** and ***other forms of cocaine*** also provided a basis for concern—and indeed the use of both increased fairly steadily through about 1998.

Over the years, MTF has demonstrated that changes in perceived risk and disapproval have been important causes of change in the use of a number of drugs. These beliefs and attitudes are almost certainly influenced by the amount and nature of public attention paid to the drug issue in the historical period during which young people are growing up. A substantial decline in attention to this issue in the early 1990s very likely explains why the increases in perceived risk and disapproval among students ceased and began to backslide. News coverage of the drug issue plummeted between 1989 and 1993 (although it made a considerable comeback as surveys—including MTF—began to document that the nation's drug problem was worsening again), and the media's *pro bono* placement of ads from the Partnership for a Drug-Free America also fell considerably. (During that period, MTF 12th graders showed a steady decline in their recalled exposure to such ads, and in the judged impact of such ads on their own drug-taking behavior.)

Also, the deterioration in the drug abuse situation first began among our youngest cohorts—perhaps because as they were growing up they had not had the same opportunities for vicarious learning from the adverse drug experiences of people around them and people portrayed in the media—those we have called the "unfortunate role models." Clearly, there was a danger that, as the drug epidemic subsided in the 1980s and early 1990s, newer cohorts would have far less opportunity to learn through informal means about the dangers of drugs—that what we have called a generational forgetting of those risks would occur through a process of generational replacement of older, more drug-savvy cohorts with newer, more naive ones. *This suggests that as drug use subsides, as it did by the early 1990s, the nation must redouble its efforts to ensure that such naive cohorts learn these lessons about the dangers of drugs through more formal means—from schools, parents, and focused messages in the media, for example—and that this more formalized prevention effort be institutionalized so that it will endure for the long term.*

Clearly, for the foreseeable future, American young people will be aware of the psychoactive potential of a host of drugs and will continue to have access to them—a situation quite different from the one that preceded the late 1960s. (Awareness and access are two necessary conditions for an epidemic.) That means that each new generation of young people must learn the reasons

that they should *not* use drugs. Otherwise, their natural curiosity and desires for new experiences will lead a great many to use.

One lesson evident from the changes of the past decade or so is that the types of drugs most in favor can change substantially over time. The illegal drugs began to decline in use in the late 1990s, while prescription drugs, and even over-the-counter drugs, began to gain favor. Today a good many of the drugs having the highest prevalence rates among teens are of this type, including narcotic drugs other than heroin.

Unfortunately, a second relapse phase in America's youth epidemic of drug use may now be beginning, as indicated by the gradual upturn in marijuana use over the past three years and the increase in ecstasy use that began in 2010. Perceived risk for these drugs has been falling, and recalled exposure to anti-drug ads has declined sharply in recent years. To a considerable degree the issue has fallen off the national screen (just as happened in the late 1980s and early 1990s), as other urgent matters (including two wars, the rise of terrorism, and a major recession) have competed for attention. Indeed, this confluence of events is very reminiscent of the period preceding the first relapse—including a considerable decrease in the levels of drug use, little attention paid to the issue by the media or government, a sharp drop in funding for anti-drug programs and ad campaigns, and a war and a recession.

Another lesson that derives from the MTF epidemiological data is that social influences that tend to reduce the *initiation* of substance use also have the potential to deter *continuation* by those who have already begun to use, particularly if they are not yet habitual users. Chapter 5 of *Volume I* shows how increased quitting rates have contributed importantly to downturns in the use of a number of drugs at different historical periods. The lesson is that primary prevention should not be the only goal of intervention programs; early-stage users may be persuaded to quit when their beliefs and attitudes regarding drugs are changed.

The following facts help to put into perspective the magnitude and variety of substance use problems that presently remain among American young people:

- More than a quarter (29%) of today's 8th graders have tried an ***illicit drug*** (if inhalants are included as an illicit drug), and half (50%) of 12th graders have done so.

- By their late 20s, nearly three of five (58%) of today's young adults have tried an ***illicit drug***, and a third (33%) have tried some ***illicit drug other than marijuana*** (usually in addition to marijuana). (These figures do not include inhalants.)

- Today, about one in seven young adults (14% in 2010) have tried ***cocaine***, and 5.5% have tried it by their senior year of high school (i.e., by age 17 or 18). One in every 42 twelfth graders (2.4%) has tried ***crack***. Among young adults 29–30 years of age, 1 in 20 (5.0%) have tried crack.

- One in every 16 twelfth graders (6.1%) in 2010 smokes ***marijuana daily***. Among young adults ages 19 to 28, the percentage is about the same (5.3%) and slightly above the recent peak level. Among those same 12th graders in 2010, one in every six (16%) has

been a daily marijuana smoker at some time for at least a month, and among young adults the comparable figure is 17%, also about one in six.

- About one in four 12th graders (23%) had ***five or more drinks in a row*** on at least one occasion in the two weeks prior to the survey, and we know that such behavior tends to increase among young adults one to four years past high school—that is, in the peak college years. Indeed, 44% of all male college students report such binge drinking.

- Even with considerable improvements in smoking rates among American adolescents since the late 1990s, about one fifth (19%) of 12th graders in 2010 were current ***cigarette*** smokers, and one in nine (11%) were already current ***daily smokers***. In addition, we know from studying previous cohorts that many young adults increase their rates of smoking within a year or so after they leave high school.

  Despite the substantial improvement in this country's drug situation in the 1980s and early 1990s, and then some further improvement beginning in the late 1990s, American secondary school students and young adults show a level of involvement with ***illicit drugs*** that is among the highest in the world's industrialized nations.[19] Even by longer term historical standards in the U.S. these rates remain extremely high, though in general they are not as high as in the peak years of the epidemic in the late 1970s. ***Heavy drinking*** also remains widespread and troublesome, though it has been declining gradually, and certainly the continuing initiation to ***cigarette smoking*** of a large, albeit decreased proportion of young people remains a matter of great public health concern. Unfortunately, the declines in youth smoking have decelerated sharply in all grades in recent years and there is some evidence of a possible increase in smoking in 2010, indicating that the improvements in youth smoking overall may be nearing an end unless there is further change in environmental factors, such as cigarette prices (including taxes), advertising and promotion of cigarettes, or places where smoking is permitted. There is now evidence that the use of ***smokeless tobacco*** is on the rise among adolescents, after a long period of improvement. This rise may well be a result of the introduction and promotion of new products, such as snus.

- Of particular note, despite the gradual (and in some cases sharp) declines in the use of many of the illegal drugs in the middle to late 1990s and early 2000s, the prescription-type, abusable drugs have shown very limited declines (with the notable exception of amphetamines). The use of ***tranquilizers***, ***sedatives*** (***barbiturates***), and ***narcotics other than heroin*** are all at or near their recent peak levels. Barbiturates and narcotics other than heroin both decreased in 2010 among 12th graders (the only grade reported for these

[19]A published report from an international collaborative study, modeled largely after MTF, provides comparative data from national school surveys of 15- to 16-year-olds that was completed in 2007 in 35 European countries. It also includes 2007 MTF data from 10th graders in the United States. See Hibell, B., Andersson, B., Bjarnasson, T., Ahlström, S., Balakireva, O., Kokkevi, A., & Morgan, M. (Eds.). (2009). *The 2007 ESPAD report* (*The European School Survey Project on Alcohol and Other Drugs): Substance Use among Students in 35 European countries.* Stockholm: The Swedish Council for Information on Alcohol and Other Drugs, The European Monitoring Centre for Drugs and Drug Addiction, the Council of Europe, and the Co-operation Group to Combat Drug Abuse and Illicit Trafficking in Drugs.

drugs); amphetamine use is up for 10th and 12th grades; and tranquilizers are up for 8th graders, level for 10th graders; and falling for 12th graders.

- Finally, we note the seemingly unending capacity of pharmacological experts and amateurs to discover new substances with abuse potential that can be used to alter mood and consciousness, and of young people to discover the abuse potential of existing products (such as ***Robitussin*** and plants like ***salvia)*** and to rediscover older drugs (such as ***LSD*** and ***heroin)***. While as a society we have made significant progress on a number of fronts in the fight against drug abuse, we must remain vigilant against the opening of new fronts, as well as the reemergence of trouble on older ones. In particular, we must guard against generational forgetting in our newest cohorts of adolescents due to a lack of public attention to the issue during the time that they are growing up.

  One of the dynamics that keeps the drug epidemic rolling is the emergence of new drugs whose hazards are little known. In 1999 we saw this happen with the drug ***ecstasy*** (***MDMA***). Other drugs like ***Rohypnol***, ***ketamine***, ***GHB***, and ***OxyContin*** have appeared in the past decade or so and have been added to the list of drugs under study. Recently, questions on use of ***salvia***, ***Adderall***, and ***Provigil*** have been added to the questionnaires. The spread of such new drugs appears to be facilitated and hastened today by young people's widespread use of social networks and other sites on the Internet. We predict a continuous flow of such new substances onto the scene, and believe that the task of rapidly documenting their emergence, establishing their adverse consequences, and quickly demystifying them will remain an important means by which policymakers, researchers, and educators deal with the continuing threats posed by such drugs. We also anticipate that there will be rediscoveries of older substances, as has been occurring in recent years with respect to the various psychotherapeutic prescription drugs, including ***tranquilizers***, ***sedatives*** (***barbiturates***), and ***narcotic drugs***.

The drug problem is not an enemy that can be vanquished. It is more a recurring and relapsing problem that must be contained to the extent possible on an ongoing basis. Therefore, it is a problem that requires an ongoing, dynamic response—one that takes into account the continuing generational replacement of our children, the generational forgetting of the dangers of drugs that can occur with that replacement, and the perpetual stream of new abusable substances that will threaten to lure young people into involvement with drugs.

TABLE 2-1
Trends in Lifetime Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Any Illicit Drug[a]																					
8th Grade	18.7	20.6	22.5	25.7	28.5	31.2	29.4	29.0	28.3	26.8	26.8	24.5	22.8	21.5	21.4	20.9	19.0	19.6	19.9	21.4	+1.4
10th Grade	30.6	29.8	32.8	37.4	40.9	45.4	47.3	44.9	46.2	45.6	45.6	44.6	41.4	39.8	38.2	36.1	35.6	34.1	36.0	37.0	+1.0
12th Grade	44.1	40.7	42.9	45.6	48.4	50.8	54.3	54.1	54.7	54.0	53.9	53.0	51.1	51.1	50.4	48.2	46.8	47.4	46.7	48.2	+1.5
College Students	50.4	48.8	45.9	45.5	45.5	47.4	49.0	52.9	53.2	53.7	53.6	51.8	53.9	52.2	52.3	50.6	50.5	49.5	51.4	49.1	-2.3
Young Adults	62.2	60.2	59.6	57.5	57.4	56.4	56.7	57.0	57.4	58.2	58.1	59.0	60.2	60.5	60.4	59.7	59.8	59.3	59.3	58.4	-0.9
Any Illicit Drug other than Marijuana[a,b]																					
8th Grade	14.3	15.6	16.8	17.5	18.8	19.2	17.7	16.9	16.3	15.8‡	17.0	13.7	13.6	12.2	12.1	12.2	11.1	11.2	10.4	10.6	+0.3
10th Grade	19.1	19.2	20.9	21.7	24.3	25.5	25.0	23.6	24.0	23.1‡	23.6	22.1	19.7	18.8	18.0	17.5	18.2	15.9	16.7	16.8	0.0
12th Grade	26.9	25.1	26.7	27.6	28.1	28.5	30.0	29.4	29.4	29.0‡	30.7	29.5	27.7	28.7	27.4	26.9	25.5	24.9	24.0	24.7	+0.6
College Students	25.8	26.1	24.3	22.0	24.5	22.7	24.4	24.8	25.5	25.8‡	26.3	26.9	27.6	28.0	26.5	26.3	25.3	22.6	25.6	24.8	-0.8
Young Adults	37.8	37.0	34.6	33.4	32.8	31.0	30.5	29.9	30.2	31.3‡	31.6	32.8	33.9	35.2	34.0	34.8	34.2	34.7	32.8	33.3	+0.6
Any Illicit Drug including Inhalants[a,c,d]																					
8th Grade	28.5	29.6	32.3	35.1	38.1	39.4	38.1	37.8	37.2	35.1	34.5	31.6	30.3	30.2	30.0	29.2	27.7	28.3	27.9	28.6	+0.7
10th Grade	36.1	36.2	38.7	42.7	45.9	49.8	50.9	49.3	49.9	49.3	48.8	47.7	44.9	43.1	42.1	40.1	39.8	38.7	40.0	40.6	+0.5
12th Grade	47.6	44.4	46.6	49.1	51.5	53.5	56.3	56.1	56.3	57.0	56.0	54.6	52.8	53.0	53.5	51.2	49.1	49.3	48.4	49.9	+1.6
College Students	52.0	50.3	49.1	47.0	47.0	49.1	50.7	55.4	54.4	54.6	53.1	52.3	54.1	52.9	53.9	53.3	52.5	51.0	51.1	50.0	-1.1
Young Adults	63.4	61.2	61.2	58.5	59.0	58.2	58.4	58.5	58.5	59.5	59.0	59.6	60.6	62.5	61.4	61.2	61.2	60.2	59.3	59.3	0.0
Marijuana/Hashish																					
8th Grade	10.2	11.2	12.6	16.7	19.9	23.1	22.6	22.2	22.0	20.3	20.4	19.2	17.5	16.3	16.5	15.7	14.2	14.6	15.7	17.3	+1.6
10th Grade	23.4	21.4	24.4	30.4	34.1	39.8	42.3	39.6	40.9	40.3	40.1	38.7	36.4	35.1	34.1	31.8	31.0	29.9	32.3	33.4	+1.0
12th Grade	36.7	32.6	35.3	38.2	41.7	44.9	49.6	49.1	49.7	48.8	49.0	47.8	46.1	45.7	44.8	42.3	41.8	42.6	42.0	43.8	+1.8
College Students	46.3	44.1	42.0	42.2	41.7	45.1	46.1	49.9	50.8	51.2	51.0	49.5	50.7	49.1	49.1	46.9	47.5	46.8	47.5	46.8	-0.6
Young Adults	58.6	56.4	55.9	53.7	53.6	53.4	53.8	54.4	54.6	55.1	55.7	56.8	57.2	57.4	57.0	56.7	56.7	55.9	56.0	55.9	-0.1
Inhalants[c,d]																					
8th Grade	17.6	17.4	19.4	19.9	21.6	21.2	21.0	20.5	19.7	17.9	17.1	15.2	15.8	17.3	17.1	16.1	15.6	15.7	14.9	14.5	-0.5
10th Grade	15.7	16.6	17.5	18.0	19.0	19.3	18.3	18.3	17.0	16.6	15.2	13.5	12.7	12.4	13.1	13.3	13.6	12.8	12.3	12.0	-0.3
12th Grade	17.6	16.6	17.4	17.7	17.4	16.6	16.1	15.2	15.4	14.2	13.0	11.7	11.2	10.9	11.4	11.1	10.5	9.9	9.5	9.0	-0.4
College Students	14.4	14.2	14.8	12.0	13.8	11.4	12.4	12.8	12.4	12.9	9.6	7.7	9.7	8.5	7.1	7.4	6.3	4.9	6.9	5.5	-1.4
Young Adults	13.4	13.5	14.1	13.2	14.5	14.1	14.1	14.2	14.2	14.3	12.8	12.4	12.2	11.6	10.3	10.9	9.1	9.5	8.9	7.9	-0.9
Nitrites[e]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.6	1.5	1.4	1.7	1.5	1.8	2.0	2.7	1.7	0.8	1.9	1.5	1.6	1.3	1.1	1.2	1.2	0.6	1.1	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.4	1.2	1.3	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hallucinogens[b,f]																					
8th Grade	3.2	3.8	3.9	4.3	5.2	5.9	5.4	4.9	4.8	4.6‡	5.2	4.1	4.0	3.5	3.8	3.4	3.1	3.3	3.0	3.4	+0.4
10th Grade	6.1	6.4	6.8	8.1	9.3	10.5	10.5	9.8	9.7	8.9‡	8.9	7.8	6.9	6.4	5.8	6.1	6.4	5.5	6.1	6.1	0.0
12th Grade	9.6	9.2	10.9	11.4	12.7	14.0	15.1	14.1	13.7	13.0‡	14.7	12.0	10.6	9.7	8.8	8.3	8.4	8.7	7.4	8.6	+1.1
College Students	11.3	12.0	11.8	10.0	13.0	12.6	13.8	15.2	14.8	14.4‡	14.8	13.6	14.5	12.0	11.0	10.6	9.1	8.5	8.0	7.8	-0.3
Young Adults	15.7	15.7	15.4	15.4	16.1	16.4	16.8	17.4	18.0	18.4‡	18.3	19.6	19.7	19.3	17.6	17.2	16.0	14.8	14.2	13.9	-0.4

(Table continued on next page.)

TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
LSD																						
8th Grade	2.7	3.2	3.5	3.7	4.4	5.1	4.7	4.1	4.1	3.9	3.4	2.5	2.1	1.8	1.9	1.6	1.6	1.9	1.7	1.8	+0.1	
10th Grade	5.6	5.8	6.2	7.2	8.4	9.4	9.5	8.5	8.5	7.6	6.3	5.0	3.5	2.8	2.5	2.7	3.0	2.6	3.0	3.0	0.0	
12th Grade	8.8	8.6	10.3	10.5	11.7	12.6	13.6	12.6	12.2	11.1	10.9	8.4	5.9	4.6	3.5	3.3	3.4	4.0	3.1	4.0	+0.8	
College Students	9.6	10.6	10.6	9.2	11.5	10.8	11.7	13.1	12.7	11.8	12.2	8.6	8.7	5.6	3.7	3.5	3.3	4.3	3.3	4.0	+0.7	
Young Adults	13.5	13.8	13.6	13.8	14.5	15.0	15.0	15.7	16.2	16.4	16.0	15.1	14.6	13.4	11.2	10.1	9.6	8.1	7.3	7.2	-0.1	
Hallucinogens other than LSD[b]																						
8th Grade	1.4	1.7	1.7	2.2	2.5	3.0	2.6	2.5	2.4	2.3‡	3.9	3.3	3.2	3.0	3.3	2.8	2.6	2.5	2.4	2.7	+0.3	
10th Grade	2.2	2.5	2.8	3.8	3.9	4.7	4.8	5.0	4.7	4.8‡	6.6	6.3	5.9	5.8	5.2	5.5	5.7	4.8	5.4	5.3	-0.1	
12th Grade	3.7	3.3	3.9	4.9	5.4	6.8	7.5	7.1	6.7	6.9‡	10.4	9.2	9.0	8.7	8.1	7.8	7.7	7.8	6.8	7.7	+0.9	
College Students	6.0	5.7	5.4	4.4	6.5	6.5	7.5	8.7	8.8	8.2‡	10.7	11.0	12.8	10.1	10.6	10.1	8.5	8.2	7.8	7.1	-0.7	
Young Adults	8.4	8.0	7.6	7.4	7.8	7.9	8.5	9.4	9.3	9.9‡	12.0	15.0	16.4	15.6	15.4	14.9	14.1	13.0	13.0	12.6	-0.4	
PCP[g]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	2.9	2.4	2.9	2.8	2.7	4.0	3.9	3.9	3.4	3.4	3.5	3.1	2.5	1.6	2.4	2.2	2.1	1.8	1.7	1.8	+0.1	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	3.1	2.0	1.9	2.0	2.2	1.9	2.4	2.7	2.3	2.3	3.1	2.5	3.0	2.7	2.0	2.4	2.1	2.2	1.6	1.6	0.0	
Ecstasy (MDMA)[h]																						
8th Grade	—	—	—	—	—	3.4	3.2	2.7	2.7	4.3	5.2	4.3	3.2	2.8	2.8	2.5	2.3	2.4	2.2	3.3	+1.1	ss
10th Grade	—	—	—	—	—	5.6	5.7	5.1	6.0	7.3	8.0	6.6	5.4	4.3	4.0	4.5	5.2	4.3	5.5	6.4	+0.8	
12th Grade	—	—	—	—	—	6.1	6.9	5.8	8.0	11.0	11.7	10.5	8.3	7.5	5.4	6.5	6.5	6.2	6.5	7.3	+0.8	
College Students	2.0	2.9	2.3	2.1	3.1	4.3	4.7	6.8	8.4	13.1	14.7	12.7	12.9	10.2	8.3	6.9	5.4	6.2	6.5	6.2	-0.3	
Young Adults	3.2	3.9	3.8	3.8	4.5	5.2	5.1	7.2	7.1	11.6	13.0	14.6	15.3	16.0	14.9	14.4	13.1	13.1	11.5	12.3	+0.8	
Cocaine																						
8th Grade	2.3	2.9	2.9	3.6	4.2	4.5	4.4	4.6	4.7	4.5	4.3	3.6	3.6	3.4	3.7	3.4	3.1	3.0	2.6	2.6	0.0	
10th Grade	4.1	3.3	3.6	4.3	5.0	6.5	7.1	7.2	7.7	6.9	5.7	6.1	5.1	5.4	5.2	4.8	5.3	4.5	4.6	3.7	-0.8	
12th Grade	7.8	6.1	6.1	5.9	6.0	7.1	8.7	9.3	9.8	8.6	8.2	7.8	7.7	8.1	8.0	8.5	7.8	7.2	6.0	5.5	-0.6	
College Students	9.4	7.9	6.3	5.0	5.5	5.0	5.6	8.1	8.4	9.1	8.6	8.2	9.2	9.5	8.8	7.7	8.5	7.2	8.1	6.6	-1.5	
Young Adults	21.0	19.5	16.9	15.2	13.7	12.9	12.1	12.3	12.8	12.7	13.1	13.5	14.7	15.2	14.3	15.2	14.7	14.8	13.9	13.6	-0.3	
Crack[i]																						
8th Grade	1.3	1.6	1.7	2.4	2.7	2.9	2.7	3.2	3.1	3.1	3.0	2.5	2.5	2.4	2.4	2.3	2.1	2.0	1.7	1.5	-0.2	
10th Grade	1.7	1.5	1.8	2.1	2.8	3.3	3.6	3.9	4.0	3.7	3.1	3.6	2.7	2.6	2.5	2.2	2.3	2.0	2.1	1.8	-0.3	
12th Grade	3.1	2.6	2.6	3.0	3.0	3.3	3.9	4.4	4.6	3.9	3.7	3.8	3.6	3.9	3.5	3.5	3.2	2.8	2.4	2.4	+0.1	
College Students	1.5	1.7	1.3	1.0	1.8	1.2	1.4	2.2	2.4	2.5	2.0	1.9	3.1	2.0	1.7	2.3	1.3	1.4	1.0	1.2	+0.2	
Young Adults	4.8	5.1	4.3	4.4	3.8	3.9	3.6	3.8	4.3	4.6	4.7	4.3	4.7	4.2	4.1	4.4	3.9	4.3	3.3	3.6	+0.3	
Other Cocaine[j]																						
8th Grade	2.0	2.4	2.4	3.0	3.4	3.8	3.5	3.7	3.8	3.5	3.3	2.8	2.7	2.6	2.9	2.7	2.6	2.4	2.1	2.1	0.0	
10th Grade	3.8	3.0	3.3	3.8	4.4	5.5	6.1	6.4	6.8	6.0	5.0	5.2	4.5	4.8	4.6	4.3	4.8	4.0	4.1	3.4	-0.7	
12th Grade	7.0	5.3	5.4	5.2	5.1	6.4	8.2	8.4	8.8	7.7	7.4	7.0	6.7	7.3	7.1	7.9	6.8	6.5	5.3	5.1	-0.2	
College Students	9.0	7.6	6.3	4.6	5.2	4.6	5.0	7.4	7.8	8.1	8.3	8.6	8.5	9.3	8.1	6.2	8.0	7.1	7.9	6.7	-1.2	
Young Adults	19.8	18.4	15.1	13.9	12.4	11.9	11.3	11.5	11.8	11.7	12.1	12.8	13.5	14.4	13.3	14.4	14.0	13.9	13.5	13.1	-0.4	

(Table continued on next page.)

TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
Heroin[j,k]																						
8th Grade	1.2	1.4	1.4	2.0	2.3	2.4	2.1	2.3	2.3	1.9	1.7	1.6	1.6	1.6	1.5	1.4	1.3	1.4	1.3	1.3	0.0	
10th Grade	1.2	1.2	1.3	1.5	1.7	2.1	2.1	2.3	2.3	2.2	1.7	1.8	1.5	1.5	1.5	1.4	1.5	1.2	1.5	1.3	-0.3	
12th Grade	0.9	1.2	1.1	1.2	1.6	1.8	2.1	2.0	2.0	2.4	1.8	1.7	1.5	1.5	1.5	1.4	1.5	1.3	1.2	1.6	+0.3	
College Students	0.5	0.5	0.6	0.1	0.6	0.7	0.9	1.7	0.9	1.7	1.2	1.0	1.0	0.9	0.5	0.7	0.5	0.7	0.8	0.7	-0.1	
Young Adults	0.9	0.9	0.9	0.8	1.1	1.3	1.3	1.6	1.7	1.8	2.0	1.8	1.9	1.9	1.7	1.9	1.6	1.9	1.6	1.8	+0.2	
With a Needle[l]																						
8th Grade	—	—	—	—	1.5	1.6	1.3	1.4	1.6	1.1	1.2	1.0	1.0	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.0	
10th Grade	—	—	—	—	1.0	1.1	1.1	1.2	1.3	1.0	0.8	1.0	0.9	0.8	0.8	0.9	0.9	0.7	0.9	0.8	-0.2	
12th Grade	—	—	—	—	0.7	0.8	0.9	0.8	0.9	0.8	0.7	0.8	0.7	0.7	0.9	0.8	0.7	0.7	0.6	1.1	+0.5	s
College Students	—	—	—	—	0.4	0.1	0.2	0.5	0.8	0.7	0.2	0.3	0.1	0.1	0.3	0.3	0.1	0.0	0.1	0.1	0.0	
Young Adults	—	—	—	—	0.4	0.4	0.3	0.4	0.6	0.4	0.6	0.4	0.5	0.4	0.6	0.6	0.5	0.5	0.5	0.8	+0.2	
Without a Needle[l]																						
8th Grade	—	—	—	—	1.5	1.6	1.4	1.5	1.4	1.3	1.1	1.0	1.1	1.0	0.9	0.9	0.7	0.9	0.8	0.7	0.0	
10th Grade	—	—	—	—	1.1	1.7	1.7	1.7	1.6	1.7	1.3	1.3	1.0	1.1	1.1	1.0	1.1	0.8	1.0	0.9	-0.1	
12th Grade	—	—	—	—	1.4	1.7	2.1	1.6	1.8	2.4	1.5	1.6	1.8	1.4	1.3	1.1	1.4	1.1	0.9	1.4	+0.5	
College Students	—	—	—	—	0.5	1.0	1.2	2.1	1.0	2.5	1.3	1.2	1.1	1.0	0.3	0.8	0.4	0.7	0.4	0.4	0.0	
Young Adults	—	—	—	—	0.9	1.3	1.5	1.7	1.9	2.1	2.1	1.8	2.2	2.1	1.8	2.4	1.9	2.1	1.9	1.8	0.0	
Narcotics other than Heroin[m,n]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	6.6	6.1	6.4	6.6	7.2	8.2	9.7	9.8	10.2	10.6	9.9‡	13.5	13.2	13.5	12.8	13.4	13.1	13.2	13.2	13.0	-0.2	
College Students	7.3	7.3	6.2	5.1	7.2	5.7	8.2	8.7	8.7	8.9	11.0‡	12.2	14.2	13.8	14.4	14.6	14.1	12.4	14.0	12.2	-1.8	
Young Adults	9.3	8.9	8.1	8.2	9.0	8.3	9.2	9.1	9.5	10.0	11.5‡	13.9	16.8	17.6	17.8	18.7	18.8	19.5	18.5	19.0	+0.5	
Amphetamines[m,o]																						
8th Grade	10.5	10.8	11.8	12.3	13.1	13.5	12.3	11.3	10.7	9.9	10.2	8.7	8.4	7.5	7.4	7.3	6.5	6.8	6.0	5.7	-0.2	
10th Grade	13.2	13.1	14.9	15.1	17.4	17.7	17.0	16.0	15.7	15.7	16.0	14.9	13.1	11.9	11.1	11.2	11.1	9.0	10.3	10.6	+0.3	
12th Grade	15.4	13.9	15.1	15.7	15.3	15.3	16.5	16.4	16.3	15.6	16.2	16.8	14.4	15.0	13.1	12.4	11.4	10.5	9.9	11.1	+1.3	
College Students	13.0	10.5	10.1	9.2	10.7	9.5	10.6	10.6	11.9	12.3	12.4	11.9	12.3	12.7	12.3	10.7	11.2	9.1	11.8	12.1	+0.4	
Young Adults	22.4	20.2	18.7	17.1	16.6	15.3	14.6	14.3	14.1	15.0	15.0	14.8	15.2	15.9	14.6	15.6	15.3	14.6	14.9	16.1	+1.2	
Methamphetamine[p,q]																						
8th Grade	—	—	—	—	—	—	—	—	4.5	4.2	4.4	3.5	3.9	2.5	3.1	2.7	1.8	2.3	1.6	1.8	+0.3	
10th Grade	—	—	—	—	—	—	—	—	7.3	6.9	6.4	6.1	5.2	5.3	4.1	3.2	2.8	2.4	2.8	2.5	-0.2	
12th Grade	—	—	—	—	—	—	—	—	8.2	7.9	6.9	6.7	6.2	6.2	4.5	4.4	3.0	2.8	2.4	2.3	-0.1	
College Students	—	—	—	—	—	—	—	—	7.1	5.1	5.3	5.0	5.8	5.2	4.1	2.9	1.9	1.9	1.0	1.1	+0.1	
Young Adults	—	—	—	—	—	—	—	—	8.8	9.3	9.0	9.1	8.9	9.0	8.3	7.3	6.7	6.3	4.7	4.3	-0.4	
Crystal Meth. (Ice)[q]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	3.3	2.9	3.1	3.4	3.9	4.4	4.4	5.3	4.8	4.0	4.1	4.7	3.9	4.0	4.0	3.4	3.4	2.8	2.1	1.8	-0.2	
College Students	1.3	0.6	1.6	1.3	1.0	0.8	1.6	2.2	2.8	1.3	2.3	2.0	2.9	2.2	2.4	1.7	1.3	1.1	0.7	0.8	+0.1	
Young Adults	2.9	2.2	2.7	2.5	2.1	3.1	2.5	3.4	3.3	3.9	4.0	4.1	4.7	4.7	4.4	4.7	3.7	3.6	3.4	2.8	-0.6	

(Table continued on next page.)

TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Sedatives (Barbiturates)[m]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.2	5.5	6.3	7.0	7.4	7.6	8.1	8.7	8.9	9.2	8.7	9.5	8.8	9.9	10.5	10.2	9.3	8.5	8.2	7.5	-0.7
College Students	3.5	3.8	3.5	3.2	4.0	4.6	5.2	5.7	6.7	6.9	6.0	5.9	5.7	7.2	8.5	6.3	5.9	6.4	6.0	5.3	-0.6
Young Adults	8.2	7.4	6.5	6.4	6.7	6.6	6.5	6.9	7.4	8.1	7.8	8.0	8.7	9.7	10.0	9.5	9.8	10.6	9.5	8.6	-0.9
Methaqualone[m,r]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.3	1.6	0.8	1.4	1.2	2.0	1.7	1.6	1.8	0.8	1.1	1.5	1.0	1.3	1.3	1.2	1.0	0.8	0.7	0.4	-0.3
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers[b,m]																					
8th Grade	3.8	4.1	4.4	4.6	4.5	5.3	4.8	4.6	4.4	4.4‡	5.0	4.3	4.4	4.0	4.1	4.3	3.9	3.9	3.9	4.4	+0.5
10th Grade	5.8	5.9	5.7	5.4	6.0	7.1	7.3	7.8	7.9	8.0‡	9.2	8.8	7.8	7.3	7.1	7.2	7.4	6.8	7.0	7.3	+0.2
12th Grade	7.2	6.0	6.4	6.6	7.1	7.2	7.8	8.5	9.3	8.9‡	10.3	11.4	10.2	10.6	9.9	10.3	9.5	8.9	9.3	8.5	-0.8
College Students	6.8	6.9	6.3	4.4	5.4	5.3	6.9	7.7	8.2	8.8‡	9.7	10.7	11.0	10.6	11.9	10.0	9.1	8.6	9.2	8.1	-1.0
Young Adults	11.8	11.3	10.5	9.9	9.7	9.3	8.6	9.6	9.6	10.5‡	11.9	13.4	13.8	14.9	14.5	15.0	14.5	15.8	13.8	14.3	+0.5
Rohypnol[s]																					
8th Grade	—	—	—	—	—	1.5	1.1	1.4	1.3	1.0	1.1	0.8	1.0	1.0	1.1	1.0	1.0	0.7	0.7	0.9	+0.2
10th Grade	—	—	—	—	—	1.5	1.7	2.0	1.8	1.3	1.5	1.3	1.0	1.2	1.0	0.8	1.3	0.9	0.7	1.4	+0.7
12th Grade	—	—	—	—	—	1.2	1.8	3.0	2.0	1.5	1.7	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol[t]																					
Any Use																					
8th Grade	70.1	69.3‡	55.7	55.8	54.5	55.3	53.8	52.5	52.1	51.7	50.5	47.0	45.6	43.9	41.0	40.5	38.9	38.9	36.6	35.8	-0.8
10th Grade	83.8	82.3‡	71.6	71.1	70.5	71.8	72.0	69.8	70.6	71.4	70.1	66.9	66.0	64.2	63.2	61.5	61.7	58.3	59.1	58.2	-0.9
12th Grade	88.0	87.5‡	80.0	80.4	80.7	79.2	81.7	81.4	80.0	80.3	79.7	78.4	76.6	76.8	75.1	72.7	72.2	71.9	72.3	71.0	-1.3
College Students	93.6	91.8	89.3	88.2	88.5	88.4	87.3	88.5	88.0	86.6	86.1	86.0	86.2	84.6	86.6	84.7	83.1	85.3	82.6	82.3	-0.3
Young Adults	94.1	93.4	92.1	91.2	91.6	91.2	90.7	90.6	90.2	90.7	89.9	90.2	89.3	89.4	89.1	88.9	87.9	88.4	87.9	87.5	-0.5
Been Drunk[u]																					
8th Grade	26.7	26.8	26.4	25.9	25.3	26.8	25.2	24.8	24.8	25.1	23.4	21.3	20.3	19.9	19.5	19.5	17.9	18.0	17.4	16.3	-1.1
10th Grade	50.0	47.7	47.9	47.2	46.9	48.5	49.4	46.7	48.9	49.3	48.2	44.0	42.4	42.3	42.1	41.4	41.2	37.2	38.6	36.9	-1.6
12th Grade	65.4	63.4	62.5	62.9	63.2	61.8	64.2	62.4	62.3	62.3	63.9	61.6	58.1	60.3	57.5	56.4	55.1	54.7	56.5	54.1	-2.4
College Students	79.6	76.8	76.4	74.4	76.6	76.2	77.0	76.8	75.1	74.7	76.1	75.1	74.9	73.4	72.9	73.1	71.6	72.5	69.1	70.5	+1.5
Young Adults	82.9	81.1	81.4	80.7	82.1	80.7	81.4	79.8	81.6	80.4	81.1	81.2	80.9	80.1	79.9	80.9	80.1	80.1	78.2	79.0	+0.8
Flavored Alcoholic Beverages[g,p]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	37.9	35.5	35.5	34.0	32.8	29.4	30.0	+0.6
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	58.6	58.8	58.1	55.7	53.5	51.4	51.3	-0.2
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	71.0	73.6	69.9	68.4	65.5	67.4	62.6	-4.8 s
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	79.0	84.5	80.9	80.6	78.6	78.1	77.4	-0.7
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	83.2	84.6	84.4	84.0	82.6	83.5	81.4	-2.0

(Table continued on next page.)

TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Cigarettes																					
Any Use																					
8th Grade	44.0	45.2	45.3	46.1	46.4	49.2	47.3	45.7	44.1	40.5	36.6	31.4	28.4	27.9	25.9	24.6	22.1	20.5	20.1	20.0	-0.1
10th Grade	55.1	53.5	56.3	56.9	57.6	61.2	60.2	57.7	57.6	55.1	52.8	47.4	43.0	40.7	38.9	36.1	34.6	31.7	32.7	33.0	+0.3
12th Grade	63.1	61.8	61.9	62.0	64.2	63.5	65.4	65.3	64.6	62.5	61.0	57.2	53.7	52.8	50.0	47.1	46.2	44.7	43.6	42.2	-1.3
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smokeless Tobacco[v]																					
8th Grade	22.2	20.7	18.7	19.9	20.0	20.4	16.8	15.0	14.4	12.8	11.7	11.2	11.3	11.0	10.1	10.2	9.1	9.8	9.6	9.9	+0.3
10th Grade	28.2	26.6	28.1	29.2	27.6	27.4	26.3	22.7	20.4	19.1	19.5	16.9	14.6	13.8	14.5	15.0	15.1	12.2	15.2	16.8	+1.5
12th Grade	—	32.4	31.0	30.7	30.9	29.8	25.3	26.2	23.4	23.1	19.7	18.3	17.0	16.7	17.5	15.2	15.1	15.6	16.3	17.6	+1.3
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[w,x]																					
8th Grade	1.9	1.7	1.6	2.0	2.0	1.8	1.8	2.3	2.7	3.0	2.8	2.5	2.5	1.9	1.7	1.6	1.5	1.4	1.3	1.1	-0.2
10th Grade	1.8	1.7	1.7	1.8	2.0	1.8	2.0	2.0	2.7	3.5	3.5	3.5	3.0	2.4	2.0	1.8	1.8	1.4	1.3	1.6	+0.3
12th Grade	2.1	2.1	2.0	2.4	2.3	1.9	2.4	2.7	2.9	2.5	3.7	4.0	3.5	3.4	2.6	2.7	2.2	2.2	2.2	2.0	-0.2
College Students	1.4	1.7	1.9	0.5	0.8	0.6	1.6	0.9	1.3	0.6	1.5	1.2	1.2	1.6	1.0	1.9	0.6	1.6	1.3	0.7	-0.6
Young Adults	1.7	1.9	1.5	1.3	1.5	1.5	1.4	1.4	1.9	1.4	1.4	1.6	1.8	1.9	1.8	1.8	1.7	1.8	1.8	1.7	-0.1

Source. The Monitoring the Future study, the University of Michigan.

Footnotes for Tables 2-1 through 2-4

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
"—" indicates data not available.
"*" indicates less than 0.05% but greater than 0%.
"‡" indicates some change in the question. See relevant footnote for that drug. See relevant figure to assess the impact of the wording changes.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

Approximate Weighted *N*s	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
8th Graders	17,500	18,600	18,300	17,300	17,500	17,800	18,600	18,100	16,700	16,700	16,200	15,100	16,500	17,000	16,800	16,500	16,100	15,700	15,000	15,300
10th Graders	14,800	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	14,300	14,000	14,300	15,800	16,400	16,200	16,200	16,100	15,100	15,900	15,200
12th Graders	15,000	15,800	16,300	15,400	15,400	14,300	15,400	15,200	13,600	12,800	12,800	12,900	14,600	14,600	14,700	14,200	14,500	14,000	13,700	14,400
College Students	1,410	1,490	1,490	1,410	1,450	1,450	1,480	1,440	1,440	1,350	1,340	1,260	1,270	1,400	1,360	1,280	1,250	1,270	1,320	1,260
Young Adults	6,600	6,800	6,700	6,500	6,400	6,300	6,400	6,200	6,000	5,700	5,800	5,300	5,300	5,700	5,400	5,100	4,800	4,900	4,900	4,900

[a]For 12th graders, college students, and young adults only: Use of "any illicit drug" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use of narcotics other than heroin, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders. For 8th and 10th graders only: The use of narcotics other than heroin and sedatives (barbiturates) has been excluded because these younger respondents appear to overreport use (perhaps because they include the use of nonprescription drugs in their answers).

[b]In 2001 the question text was changed on half of the questionnaire forms for each age group. "Other psychedelics" was changed to "other hallucinogens" and "shrooms" was added to the list of examples. For the tranquilizer list of examples, Miltown was replaced with Xanax. For 8th, 10th, and 12th graders only: The 2001 data presented here are based on the changed forms only; *N* is one half of *N* indicated. In 2002 the remaining forms were changed to the new wording. The data are based on all forms beginning in 2002. Data for any illicit drug other than marijuana and data for hallucinogens are also affected by these changes and have been handled in a parallel manner.

[c]For 12th graders, college students, and young adults only: Data based on five of six forms in 1991–1998; *N* is five sixths of *N* indicated. Data based on three of six forms beginning in 1999; *N* is three sixths of *N* indicated.

[d]Inhalants are unadjusted for underreporting of amyl and butyl nitrites.

[e]For 12th graders and young adults only: Data based on one of six forms; *N* is one sixth of *N* indicated. Questions about nitrite use were dropped from the young adult questionnaires in 1995 and from the 12th grade questionnaires in 2010.

[f]Hallucinogens are unadjusted for underreporting of PCP.

[g]For 12th graders, college students, and young adults only: Data based on one of six forms; *N* is one sixth of *N* indicated.

[h]For 8th and 10th graders only: Data based on one of two forms in 1996; *N* is one half of *N* indicated. Data based on one third of *N* indicated in 1997–2001 due to changes in the questionnaire forms. Data based on two of four forms beginning in 2002; *N* is one half of *N* indicated. For 12th graders only: Data based on one of six forms in 1996–2001; *N* is one sixth of *N* indicated. Data based on two of six forms beginning in 2002; *N* is two sixths of *N* indicated. For college students and young adults only: Data based on two of six forms in 1991–2001; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2002; *N* is three sixths of *N* indicated.

[i]For college students and young adults only: Data based on five of six forms beginning in 2002; *N* is five sixths of *N* indicated.

[j]For 12th graders only: Data based on four of six forms; *N* is four sixths of *N* indicated. For college students and young adults only: Data based on four of six forms; *N* is four sixths of *N* indicated.

[k]In 1995, the heroin question was changed in one of two forms for 8th and 10th graders, in three of six forms for 12th graders, and in two of six forms for college students and young adults. Separate questions were asked for use with and without injection. In 1996, the heroin question was changed in all remaining 8th- and 10th-grade forms. Data presented here represent the combined data from all forms.

[l]For 8th and 10th graders only: Data based on one of two forms in 1995; *N* is one half of *N* indicated. Data based on all forms beginning in 1996. For 12th graders only: Data based on three of six forms; *N* is three sixths of *N* indicated. For college students and young adults only: Data based on two of six forms; *N* is two sixths of *N* indicated.

[m]Only drug use not under a doctor's orders is included here.

[n]For 12th graders, college students, and young adults only: In 2002 the question text was changed in half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced with Vicodin, OxyContin, and Percocet. The 2002 data presented here are based on the changed forms only; *N* is one half of *N* indicated. In 2003, the remaining forms were changed to the new wording. The data are based on all forms beginning in 2003.

[o]In 2009, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. In 2010 the remaining forms were changed in a like manner.

[p]For 8th and 10th graders only: Data based on one of four forms; *N* is one third of *N* indicated.

[q]For 12th graders, college students, and young adults only: Data based on two of six forms; *N* is two sixths of *N* indicated. For college students and young adults only: Salvia data based on one of six forms; *N* is one sixth of *N* indicated.

[r]For 12th graders only: Data based on one of six forms; *N* is one sixth of *N* indicated.

[s]For 8th and 10th graders only: Data based on one of two forms in 1996; *N* is one half of *N* indicated. Data based on three of four forms in 1997–1998; *N* is two thirds of *N* indicated. Data based on two of four forms in 1999–2001; *N* is one third of *N* indicated. Data based on one of four forms beginning in 2002; *N* is one sixth of *N* indicated. For 12th graders only: Data based on one of six forms in 1996–2001; *N* is one sixth of *N* indicated. Data based on two of six forms in 2002–2009; *N* is two sixths of *N* indicated. Data for 2001 and 2002 are not comparable due to changes in the questionnaire forms. Data based on one of six forms in 2010 *N* is one sixth of *N* indicated. For college students and young adults only: Data based on two of six forms; *N* is two sixths of *N* indicated.

[t]For 8th, 10th, and 12th graders only: In 1993, the question text was changed slightly in half of the forms to indicate that a "drink" meant "more than just a few sips." The 1993 data are based on the changed forms only; *N* is one half of *N* indicated for these groups. In 1994 the remaining forms were changed to the new wording. The data are based on all forms beginning in 1994. In 2004, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. The remaining forms were changed in 2005. For college students and young adults: The revision of the question text resulted in rather little change in the reported prevalence of use. The data for all forms are used to provide the most reliable estimate of change.

[u]For 12th graders only: Data based on two of six forms; *N* is two sixths of *N* indicated. For college students and young adults only: Data based on three of six forms; *N* is three sixths of *N* indicated.

[v]For 8th and 10th graders only: Data based on one of two forms for 1991–1996 and on two of four forms beginning in 1997; *N* is one half of *N* indicated. For 12th graders only: Data based on one of six forms; *N* is one sixth of *N* indicated. For college students and young adults only: Questions about smokeless tobacco use were dropped from the analyses in 1989.

(Footnotes continued on next page.)

Footnotes for Tables 2-1 through 2-4 (cont.)

[w]For 8th and 10th graders only: In 2006, the question text was changed slightly in half of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2007 the remaining forms were changed in a like manner. In 2008 the question text was changed slightly in half of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2009 the remaining forms were changed in a like manner. For 12th graders only: Data based on two of six forms in 1991–2005; *N* is two sixths of *N* indicated. In 2006 a slightly altered version of the question was added to a third form. An examination of the data did not show any effect from the wording change. Data based on three of six forms beginning in 2006; *N* is three sixths of *N* indicated. In 2007 the remaining forms were changed in a like manner. In 2008 the question text was changed slightly in two of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2009 the remaining form was changed in a like manner.

[x]For college students and young adults only: Data based on two of six forms in 1990-2009; *N* is two sixths of *N* indicated. In 2008, the question text was changed slightly. Data based on three forms beginning in 2010; *N* is three sixths of *N* indicated.

[y]For 12th graders only: Data based on two of six forms in 2002–2005; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2006; *N* is three sixths of *N* indicated.

[z]For 12th graders only: Data based on two of six forms in 2000; *N* is two sixths of *N* indicated. Data based on three of six forms in 2001; *N* is three sixths of *N* indicated. Data based on one of six forms beginning in 2002; *N* is one sixth of *N* indicated. For college students and young adults only: Data based on two of six forms; *N* is two sixths of *N* indicated.

[aa]For 12th graders only: Data based on two of six forms in 2000; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2001; *N* is three sixths of *N* indicated. Data based on two of six forms beginning in 2010; *N* is two sixths of *N* indicated. For college students and young adults only: Data based on two of six forms; *N* is two sixths of *N* indicated.

[bb]For 12th graders only: The 2003 flavored alcoholic beverage data were created by adjusting the 2004 data to reflect the observed 2003 to 2004 change in a slightly different version of the flavored alcoholic beverage question. In 2004 the original question was revised to include wine coolers among the examples—a change that had very little effect on the observed prevalence-of-use rate.

[cc]For 12th graders only: Data based on two of six forms in 2000–2008; *N* is two sixths of *N* indicated. Beginning in 2009 data based on one of six forms; *N* is one sixth of *N* indicated.

[dd]Daily use is defined as use on 20 or more occasions in the past 30 days except for cigarettes and smokeless tobacco, for which actual daily use is measured, and for 5+ drinks, for which the prevalence of having five or more drinks in a row in the last two weeks is measured.

TABLE 2-2
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
Any Illicit Drug[a]																						
8th Grade	11.3	12.9	15.1	18.5	21.4	23.6	22.1	21.0	20.5	19.5	19.5	17.7	16.1	15.2	15.5	14.8	13.2	14.1	14.5	16.0	+1.6	s
10th Grade	21.4	20.4	24.7	30.0	33.3	37.5	38.5	35.0	35.9	36.4	37.2	34.8	32.0	31.1	29.8	28.7	28.1	26.9	29.4	30.2	+0.7	
12th Grade	29.4	27.1	31.0	35.8	39.0	40.2	42.4	41.4	42.1	40.9	41.4	41.0	39.3	38.8	38.4	36.5	35.9	36.6	36.5	38.3	+1.8	
College Students	29.2	30.6	30.6	31.4	33.5	34.2	34.1	37.8	36.9	36.1	37.9	37.0	36.5	36.2	36.6	33.9	35.0	35.2	36.0	35.0	-1.0	
Young Adults	27.0	28.3	28.4	28.4	29.8	29.2	29.2	29.9	30.3	30.8	32.1	32.4	33.0	33.7	32.8	32.1	32.5	33.8	33.3	33.2	-0.2	
Any Illicit Drug other than Marijuana[a,b]																						
8th Grade	8.4	9.3	10.4	11.3	12.6	13.1	11.8	11.0	10.5	10.2‡	10.8	8.8	8.8	7.9	8.1	7.7	7.0	7.4	7.0	7.1	+0.1	
10th Grade	12.2	12.3	13.9	15.2	17.5	18.4	18.2	16.6	16.7	16.7‡	17.9	15.7	13.8	13.5	12.9	12.7	13.1	11.3	12.2	12.1	0.0	
12th Grade	16.2	14.9	17.1	18.0	19.4	19.8	20.7	20.2	20.7	20.4‡	21.6	20.9	19.8	20.5	19.7	19.2	18.5	18.3	17.0	17.3	+0.4	
College Students	13.2	13.1	12.5	12.2	15.9	12.8	15.8	14.0	15.4	15.6‡	16.4	16.6	17.9	18.6	18.5	18.1	17.3	15.3	16.9	17.1	+0.2	
Young Adults	14.3	14.1	13.0	13.0	13.8	13.2	13.6	13.2	13.7	14.9‡	15.4	16.3	18.1	18.8	18.5	18.4	18.1	18.9	17.4	18.5	+1.1	
Any Illicit Drug including Inhalants[a,c,d]																						
8th Grade	16.7	18.2	21.1	24.2	27.1	28.7	27.2	26.2	25.3	24.0	23.9	21.4	20.4	20.2	20.4	19.7	18.0	19.0	18.8	20.3	+1.4	
10th Grade	23.9	23.5	27.4	32.5	35.6	39.6	40.3	37.1	37.7	38.0	38.7	36.1	33.5	32.9	31.7	30.7	30.2	28.8	31.2	31.8	+0.6	
12th Grade	31.2	28.8	32.5	37.6	40.2	41.9	43.3	42.4	42.8	42.5	42.6	42.1	40.5	39.1	40.3	38.0	37.0	37.3	37.6	39.2	+1.6	
College Students	29.8	31.1	31.7	31.9	33.7	35.1	35.5	39.1	37.4	37.0	38.2	37.7	36.0	35.9	37.9	35.5	36.8	35.7	35.0	34.5	-0.5	
Young Adults	27.8	29.2	28.9	29.2	30.4	30.2	30.1	30.6	30.6	31.2	33.2	32.4	32.7	34.9	32.8	32.6	33.2	33.5	33.1	33.3	+0.2	
Marijuana/Hashish																						
8th Grade	6.2	7.2	9.2	13.0	15.8	18.3	17.7	16.9	16.5	15.6	15.4	14.6	12.8	11.8	12.2	11.7	10.3	10.9	11.8	13.7	+1.9	ss
10th Grade	16.5	15.2	19.2	25.2	28.7	33.6	34.8	31.1	32.1	32.2	32.7	30.3	28.2	27.5	26.6	25.2	24.6	23.9	26.7	27.5	+0.8	
12th Grade	23.9	21.9	26.0	30.7	34.7	35.8	38.5	37.5	37.8	36.5	37.0	36.2	34.9	34.3	33.6	31.5	31.7	32.4	32.8	34.8	+2.1	
College Students	26.5	27.7	27.9	29.3	31.2	33.1	31.6	35.9	35.2	34.0	35.6	34.7	33.7	33.3	33.3	30.2	31.8	32.3	32.8	32.7	-0.1	
Young Adults	23.8	25.2	25.1	25.5	26.5	27.0	26.8	27.4	27.6	27.9	29.2	29.3	29.0	29.2	28.2	27.7	28.5	28.6	29.3	28.7	-0.7	
Inhalants[c,d]																						
8th Grade	9.0	9.5	11.0	11.7	12.8	12.2	11.8	11.1	10.3	9.4	9.1	7.7	8.7	9.6	9.5	9.1	8.3	8.9	8.1	8.1	-0.1	
10th Grade	7.1	7.5	8.4	9.1	9.6	9.5	8.7	8.0	7.2	7.3	6.6	5.8	5.4	5.9	6.0	6.5	6.6	5.9	6.1	5.7	-0.4	
12th Grade	6.6	6.2	7.0	7.7	8.0	7.6	6.7	6.2	5.6	5.9	4.5	4.5	3.9	4.2	5.0	4.5	3.7	3.8	3.4	3.6	+0.2	
College Students	3.5	3.1	3.8	3.0	3.9	3.6	4.1	3.0	3.2	2.9	2.8	2.0	1.8	2.7	1.8	1.5	1.5	1.1	1.2	1.7	+0.5	
Young Adults	2.0	1.9	2.1	2.1	2.4	2.2	2.3	2.1	2.3	2.1	1.7	1.6	1.4	1.7	1.3	1.3	0.8	1.4	0.9	1.2	+0.4	
Nitrites[e]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	0.9	0.5	0.9	1.1	1.1	1.6	1.2	1.4	0.9	0.6	0.6	1.1	0.9	0.8	0.6	0.5	0.8	0.6	0.9	—	—	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	0.2	0.1	0.4	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hallucinogens[b,f]																						
8th Grade	1.9	2.5	2.6	2.7	3.6	4.1	3.7	3.4	2.9	2.8‡	3.4	2.6	2.6	2.2	2.4	2.1	1.9	2.1	1.9	2.2	+0.3	
10th Grade	4.0	4.3	4.7	5.8	7.2	7.8	7.6	6.9	6.9	6.1‡	6.2	4.7	4.1	4.1	4.0	4.1	4.4	3.9	4.1	4.2	0.0	
12th Grade	5.8	5.9	7.4	7.6	9.3	10.1	9.8	9.0	9.4	8.1‡	9.1	6.6	5.9	6.2	5.5	4.9	5.4	5.9	4.7	5.5	+0.8	
College Students	6.3	6.8	6.0	6.2	8.2	6.9	7.7	7.2	7.8	6.7‡	7.5	6.3	7.4	5.9	5.0	5.6	4.9	5.1	4.7	4.9	+0.3	
Young Adults	4.5	5.0	4.5	4.8	5.6	5.6	5.9	5.2	5.4	5.4‡	5.4	4.7	5.2	4.7	4.5	4.1	3.8	3.8	3.9	4.2	+0.3	

(Table continued on next page.)

TABLE 2-2 (cont.)
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
LSD																						
8th Grade	1.7	2.1	2.3	2.4	3.2	3.5	3.2	2.8	2.4	2.4	2.2	1.5	1.3	1.1	1.2	0.9	1.1	1.3	1.1	1.2	+0.1	
10th Grade	3.7	4.0	4.2	5.2	6.5	6.9	6.7	5.9	6.0	5.1	4.1	2.6	1.7	1.6	1.5	1.7	1.9	1.8	1.9	1.9	0.0	
12th Grade	5.2	5.6	6.8	6.9	8.4	8.8	8.4	7.6	8.1	6.6	6.6	3.5	1.9	2.2	1.8	1.7	2.1	2.7	1.9	2.6	+0.7	s
College Students	5.1	5.7	5.1	5.2	6.9	5.2	5.0	4.4	5.4	4.3	4.0	2.1	1.4	1.2	0.7	1.4	1.3	2.6	2.0	2.1	+0.1	
Young Adults	3.8	4.3	3.8	4.0	4.6	4.5	4.4	3.5	4.0	3.7	3.4	1.8	1.2	0.9	0.8	1.2	1.1	1.4	1.7	1.5	-0.2	
Hallucinogens other than LSD[b]																						
8th Grade	0.7	1.1	1.0	1.3	1.7	2.0	1.8	1.6	1.5	1.4‡	2.4	2.1	2.1	1.9	2.0	1.8	1.6	1.6	1.5	1.8	+0.3	
10th Grade	1.3	1.4	1.9	2.4	2.8	3.3	3.3	3.4	3.2	3.1‡	4.3	4.0	3.6	3.7	3.5	3.7	3.8	3.3	3.5	3.5	0.0	
12th Grade	2.0	1.7	2.2	3.1	3.8	4.4	4.6	4.6	4.3	4.4‡	5.9	5.4	5.4	5.6	5.0	4.6	4.8	5.0	4.2	4.8	+0.5	
College Students	3.1	2.6	2.7	2.8	4.0	4.1	4.9	4.4	4.5	4.4‡	5.5	5.8	7.1	5.6	5.0	5.4	4.7	4.4	4.1	4.4	+0.3	
Young Adults	1.7	1.9	1.9	2.0	2.5	2.8	3.1	3.0	3.0	3.4‡	3.5	4.0	4.9	4.5	4.2	3.8	3.6	3.4	3.3	3.7	+0.4	
PCP[g]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	1.4	1.4	1.4	1.6	1.8	2.6	2.3	2.1	1.8	2.3	1.8	1.1	1.3	0.7	1.3	0.7	0.9	1.1	1.0	1.0	0.0	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	0.3	0.3	0.2	0.3	0.3	0.2	0.5	0.6	0.6	0.3	0.6	0.3	0.3	0.1	0.6	0.2	0.3	0.4	0.1	0.2	+0.1	
Ecstasy (MDMA)[h]																						
8th Grade	—	—	—	—	—	2.3	2.3	1.8	1.7	3.1	3.5	2.9	2.1	1.7	1.7	1.4	1.5	1.7	1.3	2.4	+1.1	sss
10th Grade	—	—	—	—	—	4.6	3.9	3.3	4.4	5.4	6.2	4.9	3.0	2.4	2.6	2.8	3.5	2.9	3.7	4.7	+1.1	s
12th Grade	—	—	—	—	—	4.6	4.0	3.6	5.6	8.2	9.2	7.4	4.5	4.0	3.0	4.1	4.5	4.3	4.3	4.5	+0.2	
College Students	0.9	2.0	0.8	0.5	2.4	2.8	2.4	3.9	5.5	9.1	9.2	6.8	4.4	2.2	2.9	2.6	2.2	3.7	3.1	4.3	+1.2	
Young Adults	0.8	1.0	0.8	0.7	1.6	1.7	2.1	2.9	3.6	7.2	7.5	6.2	4.5	3.5	3.0	3.0	2.5	3.3	3.1	3.5	+0.5	
Salvia[q]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.7	—	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.7	5.5	-0.1	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.8	3.6	-2.2	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5	3.4	-0.1	
Cocaine																						
8th Grade	1.1	1.5	1.7	2.1	2.6	3.0	2.8	3.1	2.7	2.6	2.5	2.3	2.2	2.0	2.2	2.0	2.0	1.8	1.6	1.6	0.0	
10th Grade	2.2	1.9	2.1	2.8	3.5	4.2	4.7	4.7	4.9	4.4	3.6	4.0	3.3	3.7	3.5	3.2	3.4	3.0	2.7	2.2	-0.5	
12th Grade	3.5	3.1	3.3	3.6	4.0	4.9	5.5	5.7	6.2	5.0	4.8	5.0	4.8	5.3	5.1	5.7	5.2	4.4	3.4	2.9	-0.4	
College Students	3.6	3.0	2.7	2.0	3.6	2.9	3.4	4.6	4.6	4.8	4.7	4.8	5.4	6.6	5.7	5.1	5.4	4.4	4.2	3.5	-0.7	
Young Adults	6.2	5.7	4.7	4.3	4.4	4.1	4.7	4.9	5.4	5.4	5.8	5.8	6.6	7.1	6.9	6.6	6.2	6.0	5.2	4.7	-0.5	
Crack[i]																						
8th Grade	0.7	0.9	1.0	1.3	1.6	1.8	1.7	2.1	1.8	1.8	1.7	1.6	1.6	1.3	1.4	1.3	1.3	1.1	1.1	1.0	-0.1	
10th Grade	0.9	0.9	1.1	1.4	1.8	2.1	2.2	2.5	2.4	2.2	1.8	2.3	1.6	1.7	1.7	1.3	1.3	1.3	1.2	1.0	-0.2	
12th Grade	1.5	1.5	1.5	1.9	2.1	2.1	2.4	2.5	2.7	2.2	2.1	2.3	2.2	2.3	1.9	2.1	1.9	1.6	1.3	1.4	+0.1	
College Students	0.5	0.4	0.6	0.5	1.1	0.6	0.4	1.0	0.9	0.9	0.9	0.4	1.3	1.3	0.8	1.0	0.6	0.5	0.3	0.4	+0.1	
Young Adults	1.2	1.4	1.3	1.1	1.1	1.1	1.0	1.1	1.4	1.2	1.3	1.0	1.0	1.3	1.2	1.1	1.0	0.9	0.7	0.5	-0.2	
Other Cocaine[j]																						
8th Grade	1.0	1.2	1.3	1.7	2.1	2.5	2.2	2.4	2.3	1.9	1.9	1.8	1.6	1.6	1.7	1.6	1.5	1.4	1.3	1.3	0.0	
10th Grade	2.1	1.7	1.8	2.4	3.0	3.5	4.1	4.0	4.4	3.8	3.0	3.4	2.8	3.3	3.0	2.9	3.1	2.6	2.3	1.9	-0.4	
12th Grade	3.2	2.6	2.9	3.0	3.4	4.2	5.0	4.9	5.8	4.5	4.4	4.4	4.2	4.7	4.5	5.2	4.5	4.0	3.0	2.6	-0.3	
College Students	3.2	2.4	2.5	1.8	3.3	2.3	3.0	4.2	4.2	4.1	4.1	5.0	5.1	6.3	5.0	3.8	5.3	4.2	4.2	4.0	-0.2	
Young Adults	5.4	5.1	3.9	3.6	3.9	3.8	4.3	4.5	4.8	4.8	5.3	5.6	6.1	6.4	6.3	5.9	5.6	5.5	5.0	4.8	-0.3	

(Table continued on next page.)

TABLE 2-2 (cont.)
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
Heroin[j,k]																						
8th Grade	0.7	0.7	0.7	1.2	1.4	1.6	1.3	1.3	1.4	1.1	1.0	0.9	0.9	1.0	0.8	0.8	0.8	0.9	0.7	0.8	+0.1	
10th Grade	0.5	0.6	0.7	0.9	1.1	1.2	1.4	1.4	1.4	1.4	0.9	1.1	0.7	0.9	0.9	0.9	0.8	0.8	0.9	0.8	-0.1	
12th Grade	0.4	0.6	0.5	0.6	1.1	1.0	1.2	1.0	1.1	1.5	0.9	1.0	0.8	0.9	0.8	0.8	0.9	0.7	0.7	0.9	+0.1	
College Students	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.6	0.2	0.5	0.4	0.1	0.2	0.4	0.3	0.3	0.2	0.3	0.4	0.2	-0.2	
Young Adults	0.1	0.2	0.2	0.1	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.2	0.4	0.3	0.4	0.4	0.3	0.5	0.6	0.5	-0.1	
With a Needle[l]																						
8th Grade	—	—	—	—	0.9	1.0	0.8	0.8	0.9	0.6	0.7	0.6	0.6	0.7	0.6	0.5	0.6	0.5	0.5	0.6	0.0	
10th Grade	—	—	—	—	0.6	0.7	0.7	0.8	0.6	0.5	0.4	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	-0.1	
12th Grade	—	—	—	—	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.7	+0.4	ss
College Students	—	—	—	—	0.1	*	0.1	0.2	0.1	0.1	0.1	*	0.1	0.1	0.3	0.3	*	0.0	0.1	0.0	-0.1	
Young Adults	—	—	—	—	0.1	0.1	0.1	0.1	0.1	*	0.3	*	*	0.1	0.2	0.3	0.1	0.1	0.1	0.2	+0.1	
Without a Needle[l]																						
8th Grade	—	—	—	—	0.8	1.0	0.8	0.8	0.9	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.4	0.5	+0.1	
10th Grade	—	—	—	—	0.8	0.9	1.1	1.0	1.1	1.1	0.7	0.8	0.5	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.0	
12th Grade	—	—	—	—	1.0	1.0	1.2	0.8	1.0	1.6	0.8	0.8	0.8	0.7	0.8	0.6	1.0	0.5	0.6	0.8	+0.2	
College Students	—	—	—	—	0.0	0.8	0.4	0.9	0.3	0.8	0.6	0.2	0.1	0.6	0.2	0.3	0.2	0.3	0.1	0.3	+0.2	
Young Adults	—	—	—	—	0.3	0.4	0.4	0.7	0.6	0.5	0.9	0.2	0.4	0.3	0.4	0.5	0.3	0.4	0.6	0.4	-0.2	
Narcotics other than Heroin[m,n]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	3.5	3.3	3.6	3.8	4.7	5.4	6.2	6.3	6.7	7.0	6.7‡	9.4	9.3	9.5	9.0	9.0	9.2	9.1	9.2	8.7	-0.5	
College Students	2.7	2.7	2.5	2.4	3.8	3.1	4.2	4.2	4.3	4.5	5.7‡	7.4	8.7	8.2	8.4	8.8	7.7	6.5	7.6	7.2	-0.4	
Young Adults	2.5	2.5	2.2	2.5	3.0	2.9	3.3	3.4	3.8	4.1	5.0‡	7.1	8.5	9.0	8.7	9.1	8.7	9.1	8.4	9.0	+0.7	
OxyContin[m,p,q,y]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	1.3	1.7	1.7	1.8	2.6	1.8	2.1	2.0	2.1	+0.1	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	3.0	3.6	3.5	3.2	3.8	3.9	3.6	5.1	4.6	-0.5	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	4.0	4.5	5.0	5.5	4.3	5.2	4.7	4.9	5.1	+0.2	
College Students	—	—	—	—	—	—	—	—	—	—	—	1.5	2.2	2.5	2.1	3.0	2.8	3.6	5.0	2.3	-2.8	s
Young Adults	—	—	—	—	—	—	—	—	—	—	—	1.9	2.6	3.1	3.1	3.1	2.9	3.9	5.2	3.2	-1.9	ss
Vicodin[m,p,q,y]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	2.5	2.8	2.5	2.6	3.0	2.7	2.9	2.5	2.7	+0.2	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	6.9	7.2	6.2	5.9	7.0	7.2	6.7	8.1	7.7	-0.5	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	9.6	10.5	9.3	9.5	9.7	9.6	9.7	9.7	8.0	-1.7	s
College Students	—	—	—	—	—	—	—	—	—	—	—	6.9	7.5	7.4	9.6	7.6	6.7	6.7	8.4	4.9	-3.5	s
Young Adults	—	—	—	—	—	—	—	—	—	—	—	8.2	8.6	8.9	9.3	9.1	8.9	9.1	8.9	7.8	-1.1	
Amphetamines[m,o]																						
8th Grade	6.2	6.5	7.2	7.9	8.7	9.1	8.1	7.2	6.9	6.5	6.7	5.5	5.5	4.9	4.9	4.7	4.2	4.5	4.1	3.9	-0.2	
10th Grade	8.2	8.2	9.6	10.2	11.9	12.4	12.1	10.7	10.4	11.1	11.7	10.7	9.0	8.5	7.8	7.9	8.0	6.4	7.1	7.6	+0.5	
12th Grade	8.2	7.1	8.4	9.4	9.3	9.5	10.2	10.1	10.2	10.5	10.9	11.1	9.9	10.0	8.6	8.1	7.5	6.8	6.6	7.4	+0.8	
College Students	3.9	3.6	4.2	4.2	5.4	4.2	5.7	5.1	5.8	6.6	7.2	7.0	7.1	7.0	6.7	6.0	6.9	5.7	7.5	9.0	+1.6	
Young Adults	4.3	4.1	4.0	4.5	4.6	4.2	4.6	4.5	4.7	5.4	5.8	5.9	5.8	6.2	5.1	5.6	5.6	5.3	6.0	7.1	+1.1	s

(Table continued on next page.)

TABLE 2-2 (cont.)
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Ritalin[m,p,q]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	2.9	2.8	2.6	2.5	2.4	2.6	2.1	1.6	1.8	1.5	-0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	4.8	4.8	4.1	3.4	3.4	3.6	2.8	2.9	3.6	2.7	-0.9
12th Grade	—	—	—	—	—	—	—	—	—	—	5.1	4.0	4.0	5.1	4.4	4.4	3.8	3.4	2.1	2.7	+0.6
College Students	—	—	—	—	—	—	—	—	—	—	—	5.7	4.7	4.7	4.2	3.9	3.7	3.2	1.7	1.9	+0.2
Young Adults	—	—	—	—	—	—	—	—	—	—	—	2.9	2.9	2.7	2.5	2.6	2.4	2.4	1.7	1.7	0.0
Adderall[m,p,q]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0	2.3	+0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.7	5.3	-0.5
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.4	6.5	+1.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.2	9.0	-1.2
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.8	7.0	+1.3
Provigil[m,q]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	1.3	-0.5
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.0	-0.2
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.5	0.0
Methamphetamine[p,q]																					
8th Grade	—	—	—	—	—	—	—	—	3.2	2.5	2.8	2.2	2.5	1.5	1.8	1.8	1.1	1.2	1.0	1.2	+0.2
10th Grade	—	—	—	—	—	—	—	—	4.6	4.0	3.7	3.9	3.3	3.0	2.9	1.8	1.6	1.5	1.6	1.6	0.0
12th Grade	—	—	—	—	—	—	—	—	4.7	4.3	3.9	3.6	3.2	3.4	2.5	2.5	1.7	1.2	1.2	1.0	-0.1
College Students	—	—	—	—	—	—	—	—	3.3	1.6	2.4	1.2	2.6	2.9	1.7	1.2	0.4	0.5	0.3	0.4	+0.1
Young Adults	—	—	—	—	—	—	—	—	2.8	2.5	2.8	2.5	2.7	2.8	2.4	1.9	1.5	1.0	0.9	0.7	-0.2
Crystal Meth. (Ice)[q]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.3	1.7	1.8	2.4	2.8	2.3	3.0	1.9	2.2	2.5	3.0	2.0	2.1	2.3	1.9	1.6	1.1	0.9	0.9	0.0
College Students	0.1	0.2	0.7	0.8	1.1	0.3	0.8	1.0	0.5	0.5	0.6	0.8	0.9	1.1	1.4	0.6	0.7	0.1	0.1	0.5	+0.5
Young Adults	0.3	0.4	0.8	0.9	1.2	0.9	0.9	1.1	0.9	1.2	1.1	1.4	1.3	1.5	1.6	1.1	1.1	0.8	0.8	0.5	-0.3
Sedatives (Barbiturates)[m]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.4	2.8	3.4	4.1	4.7	4.9	5.1	5.5	5.8	6.2	5.7	6.7	6.0	6.5	7.2	6.6	6.2	5.8	5.2	4.8	-0.4
College Students	1.2	1.4	1.5	1.2	2.0	2.3	3.0	2.5	3.2	3.7	3.8	3.7	4.1	4.2	3.9	3.4	3.6	3.7	3.1	2.5	-0.6
Young Adults	1.8	1.6	1.9	1.8	2.1	2.2	2.4	2.5	2.8	3.4	3.7	3.9	3.9	4.4	4.2	3.9	4.2	4.7	3.8	3.3	-0.5
Methaqualone[m,r]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.5	0.6	0.2	0.8	0.7	1.1	1.0	1.1	1.1	0.3	0.8	0.9	0.6	0.8	0.9	0.8	0.5	0.5	0.6	0.3	-0.2
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers[b,m]																					
8th Grade	1.8	2.0	2.1	2.4	2.7	3.3	2.9	2.6	2.5	2.6‡	2.8	2.6	2.7	2.5	2.8	2.6	2.4	2.4	2.6	2.8	+0.2
10th Grade	3.2	3.5	3.3	3.3	4.0	4.6	4.9	5.1	5.4	5.6‡	7.3	6.3	5.3	5.1	4.8	5.2	5.3	4.6	5.0	5.1	0.0
12th Grade	3.6	2.8	3.5	3.7	4.4	4.6	4.7	5.5	5.8	5.7‡	6.9	7.7	6.7	7.3	6.8	6.6	6.2	6.2	6.3	5.6	-0.7
College Students	2.4	2.9	2.4	1.8	2.9	2.8	3.8	3.9	3.8	4.2‡	5.1	6.7	6.9	6.7	6.4	5.8	5.5	5.0	5.4	4.9	-0.5
Young Adults	3.5	3.4	3.1	2.9	3.4	3.2	3.1	3.8	3.7	4.6‡	5.5	7.0	6.8	7.4	6.7	6.5	7.1	6.8	6.4	6.3	-0.1

(Table continued on next page.)

TABLE 2-2 (cont.)
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
OTC Cough/Cold Medicines[p,q]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.2	4.0	3.6	3.8	3.2	-0.6	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.3	5.4	5.3	6.0	5.1	-0.9	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	5.8	5.5	5.9	6.6	+0.7	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Rohypnol[s]																						
8th Grade	—	—	—	—	—	1.0	0.8	0.8	0.5	0.5	0.7	0.3	0.5	0.6	0.7	0.5	0.7	0.5	0.4	0.5	+0.1	
10th Grade	—	—	—	—	—	1.1	1.3	1.2	1.0	0.8	1.0	0.7	0.6	0.7	0.5	0.5	0.7	0.4	0.4	0.6	+0.1	
12th Grade	—	—	—	—	—	1.1	1.2	1.4	1.0	0.8	0.9‡	1.6	1.3	1.6	1.2	1.1	1.0	1.3	1.0	1.5	+0.5	
College Students	—	—	—	—	—	—	—	—	—	—	—	0.7	0.4	0.3	0.1	0.2	0.1	0.3	0.0	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	0.3	0.5	0.1	0.1	0.2	0.3	0.2	0.1	—	—	
GHB[p,z]																						
8th Grade	—	—	—	—	—	—	—	—	—	1.2	1.1	0.8	0.9	0.7	0.5	0.8	0.7	1.1	0.7	0.6	-0.1	
10th Grade	—	—	—	—	—	—	—	—	—	1.1	1.0	1.4	1.4	0.8	0.8	0.7	0.6	0.5	1.0	0.6	-0.4	s
12th Grade	—	—	—	—	—	—	—	—	—	1.9	1.6	1.5	1.4	2.0	1.1	1.1	0.9	1.2	1.1	1.4	+0.3	
College Students	—	—	—	—	—	—	—	—	—	—	—	0.6	0.3	0.7	0.4	*	0.1	0.2	0.0	0.1	+0.1	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	0.8	0.6	0.5	0.3	0.2	0.4	0.3	0.2	0.3	+0.1	
Ketamine[p,aa]																						
8th Grade	—	—	—	—	—	—	—	—	—	1.6	1.3	1.3	1.1	0.9	0.6	0.9	1.0	1.2	1.0	1.0	+0.1	
10th Grade	—	—	—	—	—	—	—	—	—	2.1	2.1	2.2	1.9	1.3	1.0	1.0	0.8	1.0	1.3	1.1	-0.2	
12th Grade	—	—	—	—	—	—	—	—	—	2.5	2.5	2.6	2.1	1.9	1.6	1.4	1.3	1.5	1.7	1.6	-0.1	
College Students	—	—	—	—	—	—	—	—	—	—	—	1.3	1.0	1.5	0.5	0.9	0.2	0.4	0.1	0.7	+0.6	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	1.2	0.9	0.6	0.5	0.5	0.3	0.4	0.5	0.8	+0.3	
Alcohol[t]																						
Any Use																						
8th Grade	54.0	53.7‡	45.4	46.8	45.3	46.5	45.5	43.7	43.5	43.1	41.9	38.7	37.2	36.7	33.9	33.6	31.8	32.1	30.3	29.3	-1.1	
10th Grade	72.3	70.2‡	63.4	63.9	63.5	65.0	65.2	62.7	63.7	65.3	63.5	60.0	59.3	58.2	56.7	55.8	56.3	52.5	52.8	52.1	-0.8	
12th Grade	77.7	76.8‡	72.7	73.0	73.7	72.5	74.8	74.3	73.8	73.2	73.3	71.5	70.1	70.6	68.6	66.5	66.4	65.5	66.2	65.2	-1.0	
College Students	88.3	86.9	85.1	82.7	83.2	82.9	82.4	84.6	83.6	83.2	83.0	82.9	81.7	81.2	83.0	82.1	80.9	82.1	79.4	78.6	-0.8	
Young Adults	86.9	86.2	85.3	83.7	84.7	84.0	84.3	84.0	84.1	84.0	84.3	84.9	83.3	84.4	83.8	84.4	84.0	83.6	83.8	82.7	-1.0	
Been Drunk[u]																						
8th Grade	17.5	18.3	18.2	18.2	18.4	19.8	18.4	17.9	18.5	18.5	16.6	15.0	14.5	14.5	14.1	13.9	12.6	12.7	12.2	11.5	-0.7	
10th Grade	40.1	37.0	37.8	38.0	38.5	40.1	40.7	38.3	40.9	41.6	39.9	35.4	34.7	35.1	34.2	34.5	34.4	30.0	31.2	29.9	-1.3	
12th Grade	52.7	50.3	49.6	51.7	52.5	51.9	53.2	52.0	53.2	51.8	53.2	50.4	48.0	51.8	47.7	47.9	46.1	45.6	47.0	44.0	-3.0	
College Students	69.1	67.3	65.6	63.1	62.1	64.2	66.8	67.0	65.4	64.7	68.8	66.0	64.7	67.1	64.2	66.2	64.8	66.8	61.5	63.8	+2.3	
Young Adults	62.0	60.9	61.1	58.8	61.6	59.9	63.2	59.6	63.2	60.6	63.1	61.8	62.9	63.8	63.5	65.7	65.8	66.0	65.5	64.8	-0.7	
Flavored Alcoholic Beverages[g,p,bb]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	30.4	27.9	26.8	26.0	25.0	22.2	21.9	-0.3	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	49.7	48.5	48.8	45.9	43.4	41.5	41.0	-0.5	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	55.2	55.8	58.4	54.7	53.6	51.8	53.4	47.9	-5.5	s
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	63.2	67.0	63.5	62.6	65.0	66.1	60.3	-5.8	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	62.7	58.4	58.5	58.9	58.3	57.0	52.0	-4.9	s

(Table continued on next page.)

TABLE 2-2 (cont.)
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
Cigarettes																						
Any Use																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
College Students	35.6	37.3	38.8	37.6	39.3	41.4	43.6	44.3	44.5	41.3	39.0	38.3	35.2	36.7	36.0	30.9	30.7	30.0	29.9	28.1	-1.8	
Young Adults	37.7	37.9	37.8	38.3	38.8	40.3	41.8	41.6	41.1	40.9	41.1	39.1	38.6	39.0	39.1	36.9	36.2	35.0	33.9	33.0	-0.9	
Bidis[p,cc]																						
8th Grade	—	—	—	—	—	—	—	—	—	3.9	2.7	2.7	2.0	1.7	1.6	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	6.4	4.9	3.1	2.8	2.1	1.6	—	—	—	—	—	—	
12th Grade	—	—	—	—	—	—	—	—	—	9.2	7.0	5.9	4.0	3.6	3.3	2.3	1.7	1.9	1.5	1.4	0.0	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Kreteks[p,cc]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	2.6	2.6	2.0	1.9	1.4	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	6.0	4.9	3.8	3.7	2.8	—	—	—	—	—	—	
12th Grade	—	—	—	—	—	—	—	—	—	—	10.1	8.4	6.7	6.5	7.1	6.2	6.8	6.8	5.5	4.6	-0.9	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Tobacco using a Hookah[r]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.1	—	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Small Cigars[r]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.1	—	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Steroids[w,x]																						
8th Grade	1.0	1.1	0.9	1.2	1.0	0.9	1.0	1.2	1.7	1.7	1.6	1.5	1.4	1.1	1.1	0.9	0.8	0.9	0.8	0.5	-0.2	s
10th Grade	1.1	1.1	1.0	1.1	1.2	1.2	1.2	1.2	1.7	2.2	2.1	2.2	1.7	1.5	1.3	1.2	1.1	0.9	0.8	1.0	+0.2	
12th Grade	1.4	1.1	1.2	1.3	1.5	1.4	1.4	1.7	1.8	1.7	2.4	2.5	2.1	2.5	1.5	1.8	1.4	1.5	1.5	1.5	0.0	
College Students	0.6	0.2	0.9	0.2	0.4	0.2	0.7	0.2	0.9	0.1	0.6	0.5	0.3	0.6	0.5	0.8	0.6	0.1	0.7	0.3	-0.4	
Young Adults	0.5	0.4	0.3	0.4	0.5	0.3	0.5	0.4	0.6	0.4	0.4	0.4	0.5	0.5	0.5	0.3	0.7	0.4	0.7	0.8	+0.1	

Source. The Monitoring the Future study, the University of Michigan.

See relevant footnotes at the end of Table 2-1.

TABLE 2-3
Trends in 30-Day Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
Any Illicit Drug[a]																						
8th Grade	5.7	6.8	8.4	10.9	12.4	14.6	12.9	12.1	12.2	11.9	11.7	10.4	9.7	8.4	8.5	8.1	7.4	7.6	8.1	9.5	+1.4	s
10th Grade	11.6	11.0	14.0	18.5	20.2	23.2	23.0	21.5	22.1	22.5	22.7	20.8	19.5	18.3	17.3	16.8	16.9	15.8	17.8	18.5	+0.6	
12th Grade	16.4	14.4	18.3	21.9	23.8	24.6	26.2	25.6	25.9	24.9	25.7	25.4	24.1	23.4	23.1	21.5	21.9	22.3	23.3	23.8	+0.5	
College Students	15.2	16.1	15.1	16.0	19.1	17.6	19.2	19.7	21.6	21.5	21.9	21.5	21.4	21.2	19.5	19.2	19.3	18.9	20.7	19.2	-1.5	
Young Adults	15.1	14.8	14.9	15.3	15.8	15.8	16.4	16.1	17.1	18.1	18.8	18.9	19.9	19.1	18.6	18.5	18.9	19.3	19.8	18.9	-0.9	
Any Illicit Drug other than Marijuana[a,b]																						
8th Grade	3.8	4.7	5.3	5.6	6.5	6.9	6.0	5.5	5.5	5.6‡	5.5	4.7	4.7	4.1	4.1	3.8	3.6	3.8	3.5	3.5	+0.1	
10th Grade	5.5	5.7	6.5	7.1	8.9	8.9	8.8	8.6	8.6	8.5‡	8.7	8.1	6.9	6.9	6.4	6.3	6.9	5.3	5.7	5.8	+0.1	
12th Grade	7.1	6.3	7.9	8.8	10.0	9.5	10.7	10.7	10.4	10.4‡	11.0	11.3	10.4	10.8	10.3	9.8	9.5	9.3	8.6	8.6	-0.1	
College Students	4.3	4.6	5.4	4.6	6.3	4.5	6.8	6.1	6.4	6.9‡	7.5	7.8	8.2	9.1	8.2	8.2	8.1	7.3	8.4	8.1	-0.3	
Young Adults	5.4	5.5	4.9	5.3	5.7	4.7	5.5	5.5	6.0	6.4‡	7.0	7.7	8.3	8.5	8.2	8.1	8.6	8.9	8.5	8.6	+0.1	
Any Illicit Drug including Inhalants[a,c,d]																						
8th Grade	8.8	10.0	12.0	14.3	16.1	17.5	16.0	14.9	15.1	14.4	14.0	12.6	12.1	11.2	11.2	10.9	10.1	10.4	10.6	11.7	+1.1	
10th Grade	13.1	12.6	15.5	20.0	21.6	24.5	24.1	22.5	23.1	23.6	23.6	21.7	20.5	19.3	18.4	17.7	18.1	16.8	18.8	19.4	+0.5	
12th Grade	17.8	15.5	19.3	23.0	24.8	25.5	26.9	26.6	26.4	26.4	26.5	25.9	24.6	23.3	24.2	22.1	22.8	22.8	24.1	24.5	+0.4	
College Students	15.1	16.5	15.7	16.4	19.6	18.0	19.6	21.0	21.8	22.6	21.9	21.9	21.6	21.7	19.0	19.7	18.1	18.9	21.3	20.5	-0.8	
Young Adults	15.4	15.3	15.1	16.1	16.1	16.4	16.9	16.7	17.4	18.8	19.2	19.5	20.1	19.6	18.0	18.4	19.1	19.3	20.3	19.6	-0.6	
Marijuana/Hashish																						
8th Grade	3.2	3.7	5.1	7.8	9.1	11.3	10.2	9.7	9.7	9.1	9.2	8.3	7.5	6.4	6.6	6.5	5.7	5.8	6.5	8.0	+1.5	ss
10th Grade	8.7	8.1	10.9	15.8	17.2	20.4	20.5	18.7	19.4	19.7	19.8	17.8	17.0	15.9	15.2	14.2	14.2	13.8	15.9	16.7	+0.7	
12th Grade	13.8	11.9	15.5	19.0	21.2	21.9	23.7	22.8	23.1	21.6	22.4	21.5	21.2	19.9	19.8	18.3	18.8	19.4	20.6	21.4	+0.8	
College Students	14.1	14.6	14.2	15.1	18.6	17.5	17.7	18.6	20.7	20.0	20.2	19.7	19.3	18.9	17.1	16.7	16.8	17.0	18.5	17.5	-0.9	
Young Adults	13.5	13.3	13.4	14.1	14.0	15.1	15.0	14.9	15.6	16.1	16.7	16.9	17.3	16.5	15.8	15.7	16.0	16.0	17.0	16.1	-0.9	
Inhalants[c,d]																						
8th Grade	4.4	4.7	5.4	5.6	6.1	5.8	5.6	4.8	5.0	4.5	4.0	3.8	4.1	4.5	4.2	4.1	3.9	4.1	3.8	3.6	-0.2	
10th Grade	2.7	2.7	3.3	3.6	3.5	3.3	3.0	2.9	2.6	2.6	2.4	2.4	2.2	2.4	2.2	2.3	2.5	2.1	2.2	2.0	-0.2	
12th Grade	2.4	2.3	2.5	2.7	3.2	2.5	2.5	2.3	2.0	2.2	1.7	1.5	1.5	1.5	2.0	1.5	1.2	1.4	1.2	1.4	+0.2	
College Students	0.9	1.1	1.3	0.6	1.6	0.8	0.8	0.6	1.5	0.9	0.4	0.7	0.4	0.4	0.3	0.4	0.1	0.4	0.1	0.5	+0.4	
Young Adults	0.5	0.6	0.7	0.5	0.7	0.5	0.5	0.7	0.8	0.5	0.4	0.5	0.3	0.3	0.2	0.3	0.2	0.4	0.2	0.1	0.0	
Nitrites[e]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	0.4	0.3	0.6	0.4	0.4	0.7	0.7	1.0	0.4	0.3	0.5	0.6	0.7	0.7	0.5	0.3	0.5	0.3	0.6	—	—	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	*	0.1	0.2	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Hallucinogens[b,f]																						
8th Grade	0.8	1.1	1.2	1.3	1.7	1.9	1.8	1.4	1.3	1.2‡	1.6	1.2	1.2	1.0	1.1	0.9	1.0	0.9	0.9	1.0	+0.1	
10th Grade	1.6	1.8	1.9	2.4	3.3	2.8	3.3	3.2	2.9	2.3‡	2.1	1.6	1.5	1.6	1.5	1.5	1.7	1.3	1.4	1.6	+0.2	
12th Grade	2.2	2.1	2.7	3.1	4.4	3.5	3.9	3.8	3.5	2.6‡	3.3	2.3	1.8	1.9	1.9	1.5	1.7	2.2	1.6	1.9	+0.3	
College Students	1.2	2.3	2.5	2.1	3.3	1.9	2.1	2.1	2.0	1.4‡	1.8	1.2	1.8	1.3	1.2	0.9	1.3	1.7	1.0	1.4	+0.4	
Young Adults	1.1	1.5	1.2	1.4	1.7	1.2	1.5	1.4	1.3	1.2‡	1.2	0.9	1.2	0.9	0.8	0.7	0.9	0.9	0.8	1.0	+0.2	

(Table continued on next page.)

TABLE 2-3 (cont.)
Trends in 30-Day Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
LSD																					
8th Grade	0.6	0.9	1.0	1.1	1.4	1.5	1.5	1.1	1.1	1.0	1.0	0.7	0.6	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.0
10th Grade	1.5	1.6	1.6	2.0	3.0	2.4	2.8	2.7	2.3	1.6	1.5	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.5	0.7	+0.2
12th Grade	1.9	2.0	2.4	2.6	4.0	2.5	3.1	3.2	2.7	1.6	2.3	0.7	0.6	0.7	0.7	0.6	0.6	1.1	0.5	0.8	+0.3 s
College Students	0.8	1.8	1.6	1.8	2.5	0.9	1.1	1.5	1.2	0.9	1.0	0.2	0.2	0.2	0.1	0.3	0.3	0.8	0.3	0.7	+0.4
Young Adults	0.8	1.1	0.8	1.1	1.3	0.7	0.9	1.0	0.8	0.8	0.7	0.3	0.2	0.1	0.1	0.2	0.2	0.4	0.2	0.4	+0.2
Hallucinogens other than LSD[b]																					
8th Grade	0.3	0.4	0.5	0.7	0.8	0.9	0.7	0.7	0.6	0.6‡	1.1	1.0	1.0	0.8	0.9	0.7	0.7	0.7	0.7	0.8	+0.1
10th Grade	0.4	0.5	0.7	1.0	1.0	1.0	1.2	1.4	1.2	1.2‡	1.4	1.4	1.2	1.4	1.3	1.3	1.4	1.0	1.1	1.2	+0.1
12th Grade	0.7	0.5	0.8	1.2	1.3	1.6	1.7	1.6	1.6	1.7‡	1.9	2.0	1.5	1.7	1.6	1.3	1.4	1.6	1.4	1.5	+0.2
College Students	0.6	0.7	1.1	0.8	1.6	1.2	1.2	0.7	1.2	0.8‡	0.8	1.1	1.7	1.2	1.1	0.7	1.1	1.3	0.8	1.2	+0.3
Young Adults	0.3	0.5	0.6	0.6	0.6	0.6	0.7	0.5	0.6	0.7‡	0.6	0.8	1.2	0.9	0.8	0.6	0.8	0.7	0.7	0.8	+0.1
PCP[g]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.5	0.6	1.0	0.7	0.6	1.3	0.7	1.0	0.8	0.9	0.5	0.4	0.6	0.4	0.7	0.4	0.5	0.6	0.5	0.8	+0.2
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	0.1	0.2	0.2	0.1	*	0.1	0.1	0.2	0.2	*	*	0.1	0.1	0.1	*	*	*	0.1	*	0.0	0.0
Ecstasy (MDMA)[h]																					
8th Grade	—	—	—	—	—	1.0	1.0	0.9	0.8	1.4	1.8	1.4	0.7	0.8	0.6	0.7	0.6	0.8	0.6	1.1	+0.5 ss
10th Grade	—	—	—	—	—	1.8	1.3	1.3	1.8	2.6	2.6	1.8	1.1	0.8	1.0	1.2	1.2	1.1	1.3	1.9	+0.6 s
12th Grade	—	—	—	—	—	2.0	1.6	1.5	2.5	3.6	2.8	2.4	1.3	1.2	1.0	1.3	1.6	1.8	1.8	1.4	-0.4
College Students	0.2	0.4	0.3	0.2	0.7	0.7	0.8	0.8	2.1	2.5	1.5	0.7	1.0	0.7	0.8	0.6	0.4	0.6	0.5	1.0	+0.5
Young Adults	0.1	0.3	0.3	0.2	0.4	0.3	0.6	0.8	1.3	1.9	1.8	1.3	0.8	0.6	0.6	0.7	0.5	0.6	0.6	0.8	+0.2
Cocaine																					
8th Grade	0.5	0.7	0.7	1.0	1.2	1.3	1.1	1.4	1.3	1.2	1.2	1.1	0.9	0.9	1.0	1.0	0.9	0.8	0.8	0.6	-0.2
10th Grade	0.7	0.7	0.9	1.2	1.7	1.7	2.0	2.1	1.8	1.8	1.3	1.6	1.3	1.7	1.5	1.5	1.3	1.2	0.9	0.9	0.0
12th Grade	1.4	1.3	1.3	1.5	1.8	2.0	2.3	2.4	2.6	2.1	2.1	2.3	2.1	2.3	2.3	2.5	2.0	1.9	1.3	1.3	0.0
College Students	1.0	1.0	0.7	0.6	0.7	0.8	1.6	1.6	1.2	1.4	1.9	1.6	1.9	2.4	1.8	1.8	1.7	1.2	1.3	1.0	-0.3
Young Adults	2.0	1.8	1.4	1.3	1.5	1.2	1.6	1.7	1.9	1.7	2.2	2.2	2.4	2.2	2.2	2.3	2.1	1.9	1.8	1.4	-0.4
Crack[i]																					
8th Grade	0.3	0.5	0.4	0.7	0.7	0.8	0.7	0.9	0.8	0.8	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.4	-0.1
10th Grade	0.3	0.4	0.5	0.6	0.9	0.8	0.9	1.1	0.8	0.9	0.7	1.0	0.7	0.8	0.7	0.7	0.5	0.5	0.4	0.5	+0.1
12th Grade	0.7	0.6	0.7	0.8	1.0	1.0	0.9	1.0	1.1	1.0	1.1	1.2	0.9	1.0	1.0	0.9	0.9	0.8	0.6	0.7	+0.1
College Students	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.1	0.3	0.4	0.4	0.1	*	0.1	0.1	0.1	0.1	0.0
Young Adults	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.1	0.0
Other Cocaine[j]																					
8th Grade	0.5	0.5	0.6	0.9	1.0	1.0	0.8	1.0	1.1	0.9	0.9	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.5	-0.2
10th Grade	0.6	0.6	0.7	1.0	1.4	1.3	1.6	1.8	1.6	1.6	1.2	1.3	1.1	1.5	1.3	1.3	1.1	1.0	0.8	0.7	0.0
12th Grade	1.2	1.0	1.2	1.3	1.3	1.6	2.0	2.0	2.5	1.7	1.8	1.9	1.8	2.2	2.0	2.4	1.7	1.7	1.1	1.1	0.0
College Students	1.0	0.9	0.6	0.3	0.8	0.6	1.3	1.5	1.0	0.9	1.5	1.4	1.9	2.2	1.8	1.3	1.6	1.1	1.2	1.0	-0.2
Young Adults	1.8	1.7	1.1	1.0	1.3	1.1	1.5	1.5	1.6	1.5	1.8	2.0	2.1	2.1	1.9	1.9	2.0	1.7	1.6	1.5	-0.2

(Table continued on next page.)

TABLE 2-3 (cont.)
Trends in 30-Day Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Heroin[j,k]																					
8th Grade	0.3	0.4	0.4	0.6	0.6	0.7	0.6	0.6	0.6	0.5	0.6	0.5	0.4	0.5	0.5	0.3	0.4	0.4	0.4	0.4	0.0
10th Grade	0.2	0.2	0.3	0.4	0.6	0.5	0.6	0.7	0.7	0.5	0.3	0.5	0.3	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.0
12th Grade	0.2	0.3	0.2	0.3	0.6	0.5	0.5	0.5	0.5	0.7	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.0
College Students	0.1	*	*	*	0.1	*	0.2	0.1	0.1	0.2	0.1	*	*	0.1	0.1	0.2	0.1	*	0.1	0.0	-0.1
Young Adults	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	*	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	-0.1
With a Needle[l]																					
8th Grade	—	—	—	—	0.4	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.0
10th Grade	—	—	—	—	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.0
12th Grade	—	—	—	—	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.1	0.4	+0.3 ss
College Students	—	—	—	—	*	*	0.1	*	0.1	0.1	*	*	0.1	0.1	0.1	0.1	*	0.0	0.1	0.0	-0.1
Young Adults	—	—	—	—	*	*	0.1	*	0.1	*	0.2	*	*	0.1	0.1	0.1	*	*	0.1	0.1	0.0
Without a Needle[l]																					
8th Grade	—	—	—	—	0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.0
10th Grade	—	—	—	—	0.3	0.3	0.4	0.5	0.5	0.4	0.2	0.4	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.3	+0.1
12th Grade	—	—	—	—	0.6	0.4	0.6	0.4	0.4	0.7	0.3	0.5	0.4	0.3	0.5	0.3	0.4	0.2	0.3	0.4	+0.1
College Students	—	—	—	—	*	0.1	0.2	0.2	0.3	0.4	0.3	*	*	0.3	*	0.2	0.1	0.1	0.1	0.0	-0.1
Young Adults	—	—	—	—	0.1	*	0.1	0.2	0.2	0.2	0.4	*	0.1	0.1	0.1	0.3	0.2	*	0.3	0.1	-0.2
Narcotics other than Heroin[m,n]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.1	1.2	1.3	1.5	1.8	2.0	2.3	2.4	2.6	2.9	3.0‡	4.0	4.1	4.3	3.9	3.8	3.8	3.8	4.1	3.6	-0.5
College Students	0.6	1.0	0.7	0.4	1.2	0.7	1.3	1.1	1.0	1.7	1.7‡	3.2	2.3	3.0	3.1	3.1	2.2	2.3	2.7	2.3	-0.4
Young Adults	0.6	0.7	0.7	0.6	0.9	0.7	0.9	0.9	1.2	1.4	1.7‡	2.9	2.9	3.0	3.5	3.2	3.4	3.6	3.2	3.4	+0.2
Amphetamines[m,o]																					
8th Grade	2.6	3.3	3.6	3.6	4.2	4.6	3.8	3.3	3.4	3.4	3.2	2.8	2.7	2.3	2.3	2.1	2.0	2.2	1.9	1.8	-0.1
10th Grade	3.3	3.6	4.3	4.5	5.3	5.5	5.1	5.1	5.0	5.4	5.6	5.2	4.3	4.0	3.7	3.5	4.0	2.8	3.3	3.3	-0.1
12th Grade	3.2	2.8	3.7	4.0	4.0	4.1	4.8	4.6	4.5	5.0	5.6	5.5	5.0	4.6	3.9	3.7	3.7	2.9	3.0	3.3	+0.3
College Students	1.0	1.1	1.5	1.5	2.2	0.9	2.1	1.7	2.3	2.9	3.3	3.0	3.1	3.2	2.9	2.5	3.1	2.8	3.4	4.1	+0.7
Young Adults	1.5	1.5	1.5	1.7	1.7	1.5	1.7	1.7	1.9	2.3	2.4	2.5	2.5	2.4	2.1	2.2	2.3	2.2	2.5	2.9	+0.4
Methamphetamine[p,q]																					
8th Grade	—	—	—	—	—	—	—	—	1.1	0.8	1.3	1.1	1.2	0.6	0.7	0.6	0.6	0.7	0.5	0.7	+0.2
10th Grade	—	—	—	—	—	—	—	—	1.8	2.0	1.5	1.8	1.4	1.3	1.1	0.7	0.4	0.7	0.6	0.7	0.0
12th Grade	—	—	—	—	—	—	—	—	1.7	1.9	1.5	1.7	1.7	1.4	0.9	0.9	0.6	0.6	0.5	0.5	0.0
College Students	—	—	—	—	—	—	—	—	1.2	0.2	0.5	0.2	0.6	0.2	0.1	0.2	0.1	0.0	0.1	0.0	-0.1
Young Adults	—	—	—	—	—	—	—	—	0.8	0.7	1.0	1.0	0.7	0.6	0.7	0.5	0.6	0.3	0.3	0.2	0.0
Crystal Meth. (Ice)[q]																					
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.6	0.5	0.6	0.7	1.1	1.1	0.8	1.2	0.8	1.0	1.1	1.2	0.8	0.8	0.9	0.7	0.6	0.6	0.5	0.6	+0.1
College Students	*	*	0.3	0.5	0.3	0.1	0.2	0.3	*	*	0.1	*	0.3	0.1	0.2	*	0.1	0.0	0.0	0.2	+0.2
Young Adults	*	0.1	0.3	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.4	0.4	0.6	0.3	0.3	0.3	0.2	0.2	0.0

(Table continued on next page.)

TABLE 2-3 (cont.)
Trends in 30-Day Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
Sedatives (Barbiturates)[m]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	1.4	1.1	1.3	1.7	2.2	2.1	2.1	2.6	2.6	3.0	2.8	3.2	2.9	2.9	3.3	3.0	2.7	2.8	2.5	2.2	-0.3	
College Students	0.3	0.7	0.4	0.4	0.5	0.8	1.2	1.1	1.1	1.1	1.5	1.7	1.7	1.5	1.3	1.3	1.4	1.4	1.2	0.6	-0.7	
Young Adults	0.5	0.5	0.6	0.6	0.8	0.8	0.9	0.9	1.1	1.3	1.7	1.5	1.5	1.8	1.7	1.5	1.6	1.9	1.2	1.1	-0.2	
Methaqualone[m,r]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	0.2	0.4	0.1	0.4	0.4	0.6	0.3	0.6	0.4	0.2	0.5	0.3	0.4	0.5	0.5	0.4	0.4	0.2	0.3	0.2	-0.1	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Tranquilizers[b,m]																						
8th Grade	0.8	0.8	0.9	1.1	1.2	1.5	1.2	1.2	1.1	1.4‡	1.2	1.2	1.4	1.2	1.3	1.3	1.1	1.2	1.2	1.2	-0.1	
10th Grade	1.2	1.5	1.1	1.5	1.7	1.7	2.2	2.2	2.2	2.5‡	2.9	2.9	2.4	2.3	2.3	2.4	2.6	1.9	2.0	2.2	+0.2	
12th Grade	1.4	1.0	1.2	1.4	1.8	2.0	1.8	2.4	2.5	2.6‡	2.9	3.3	2.8	3.1	2.9	2.7	2.6	2.6	2.7	2.5	-0.2	
College Students	0.6	0.6	0.4	0.4	0.5	0.7	1.2	1.3	1.1	2.0‡	1.5	3.0	2.8	2.7	2.2	2.1	1.8	1.6	2.2	1.3	-0.9	
Young Adults	0.9	1.0	1.0	0.8	1.1	0.7	1.1	1.2	1.3	1.8‡	2.1	2.8	2.4	2.7	2.6	2.3	2.8	2.7	2.8	2.2	-0.5	
Rohypnol[s]																						
8th Grade	—	—	—	—	—	0.5	0.3	0.4	0.3	0.3	0.4	0.2	0.1	0.2	0.2	0.4	0.3	0.1	0.2	0.2	0.0	
10th Grade	—	—	—	—	—	0.5	0.5	0.4	0.5	0.4	0.2	0.4	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.0	
12th Grade	—	—	—	—	—	0.5	0.3	0.3	0.3	0.4	0.3	—	—	—	—	—	—	—	—	—	—	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Alcohol[t]																						
Any Use																						
8th Grade	25.1	26.1‡	24.3	25.5	24.6	26.2	24.5	23.0	24.0	22.4	21.5	19.6	19.7	18.6	17.1	17.2	15.9	15.9	14.9	13.8	-1.2	
10th Grade	42.8	39.9‡	38.2	39.2	38.8	40.4	40.1	38.8	40.0	41.0	39.0	35.4	35.4	35.2	33.2	33.8	33.4	28.8	30.4	28.9	-1.5	
12th Grade	54.0	51.3‡	48.6	50.1	51.3	50.8	52.7	52.0	51.0	50.0	49.8	48.6	47.5	48.0	47.0	45.3	44.4	43.1	43.5	41.2	-2.3	s
College Students	74.7	71.4	70.1	67.8	67.5	67.0	65.8	68.1	69.6	67.4	67.0	68.9	66.2	67.7	67.9	65.4	66.6	69.0	65.8	65.0	-0.8	
Young Adults	70.6	69.0	68.3	67.7	68.1	66.7	67.5	66.9	68.2	66.8	67.0	68.3	67.0	68.4	68.6	68.7	69.5	68.9	69.4	68.4	-1.0	
Been Drunk[u]																						
8th Grade	7.6	7.5	7.8	8.7	8.3	9.6	8.2	8.4	9.4	8.3	7.7	6.7	6.7	6.2	6.0	6.2	5.5	5.4	5.4	5.0	-0.4	
10th Grade	20.5	18.1	19.8	20.3	20.8	21.3	22.4	21.1	22.5	23.5	21.9	18.3	18.2	18.5	17.6	18.8	18.1	14.4	15.5	14.7	-0.9	
12th Grade	31.6	29.9	28.9	30.8	33.2	31.3	34.2	32.9	32.9	32.3	32.7	30.3	30.9	32.5	30.2	30.0	28.7	27.6	27.4	26.8	-0.6	
College Students	45.0	45.0	43.8	42.8	37.9	40.3	46.4	44.3	44.6	43.9	44.7	44.4	40.4	47.4	43.1	47.6	46.8	45.3	42.4	43.6	+1.1	
Young Adults	35.4	35.6	34.2	34.3	33.0	33.2	35.6	34.2	37.7	35.7	36.8	37.1	37.8	39.0	39.0	42.1	41.4	40.7	40.5	39.4	-1.1	
Flavored Alcoholic Beverages[g,p]																						
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	14.6	12.9	13.1	12.2	10.2	9.5	9.4	-0.1	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	25.1	23.1	24.7	21.8	20.2	19.0	19.4	+0.4	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	31.1	30.5	29.3	29.1	27.4	27.4	24.1	-3.3	s
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	34.1	30.9	26.2	27.5	35.8	32.3	31.5	-0.8	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	29.5	27.6	24.9	25.9	26.7	24.4	24.5	+0.1	

(Table continued on next page.)

TABLE 2-3 (cont.)
Trends in 30-Day Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Cigarettes																					
Any Use																					
8th Grade	14.3	15.5	16.7	18.6	19.1	21.0	19.4	19.1	17.5	14.6	12.2	10.7	10.2	9.2	9.3	8.7	7.1	6.8	6.5	7.1	+0.7
10th Grade	20.8	21.5	24.7	25.4	27.9	30.4	29.8	27.6	25.7	23.9	21.3	17.7	16.7	16.0	14.9	14.5	14.0	12.3	13.1	13.6	+0.5
12th Grade	28.3	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	31.4	29.5	26.7	24.4	25.0	23.2	21.6	21.6	20.4	20.1	19.2	-0.9
College Students	23.2	23.5	24.5	23.5	26.8	27.9	28.3	30.0	30.6	28.2	25.7	26.7	22.5	24.3	23.8	19.2	19.9	17.9	17.9	16.4	-1.6
Young Adults	28.2	28.3	28.0	28.0	29.2	30.1	29.9	30.9	30.3	30.1	30.2	29.2	28.4	29.2	28.6	27.0	26.2	24.6	23.3	22.4	-1.0
Smokeless Tobacco[v]																					
8th Grade	6.9	7.0	6.6	7.7	7.1	7.1	5.5	4.8	4.5	4.2	4.0	3.3	4.1	4.1	3.3	3.7	3.2	3.5	3.7	4.1	+0.3
10th Grade	10.0	9.6	10.4	10.5	9.7	8.6	8.9	7.5	6.5	6.1	6.9	6.1	5.3	4.9	5.6	5.7	6.1	5.0	6.5	7.5	+1.1
12th Grade	—	11.4	10.7	11.1	12.2	9.8	9.7	8.8	8.4	7.6	7.8	6.5	6.7	6.7	7.6	6.1	6.6	6.5	8.4	8.5	+0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[w,x]																					
8th Grade	0.4	0.5	0.5	0.5	0.6	0.4	0.5	0.5	0.7	0.8	0.7	0.8	0.7	0.5	0.5	0.5	0.4	0.5	0.4	0.3	-0.1
10th Grade	0.6	0.6	0.5	0.6	0.6	0.5	0.7	0.6	0.9	1.0	0.9	1.0	0.8	0.8	0.6	0.6	0.5	0.5	0.5	0.5	0.0
12th Grade	0.8	0.6	0.7	0.9	0.7	0.7	1.0	1.1	0.9	0.8	1.3	1.4	1.3	1.6	0.9	1.1	1.0	1.0	1.0	1.1	+0.1
College Students	0.3	0.2	0.2	0.2	0.1	*	0.2	0.2	0.4	*	0.3	*	0.1	*	*	*	0.1	*	0.2	0.0	-0.2
Young Adults	0.2	0.1	*	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.4	0.2	0.3	0.5	+0.2

Source. The Monitoring the Future study, the University of Michigan.

See relevant footnotes at the end of Table 2-1.

TABLE 2-4
Trends in 30-Day Prevalence of Daily Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

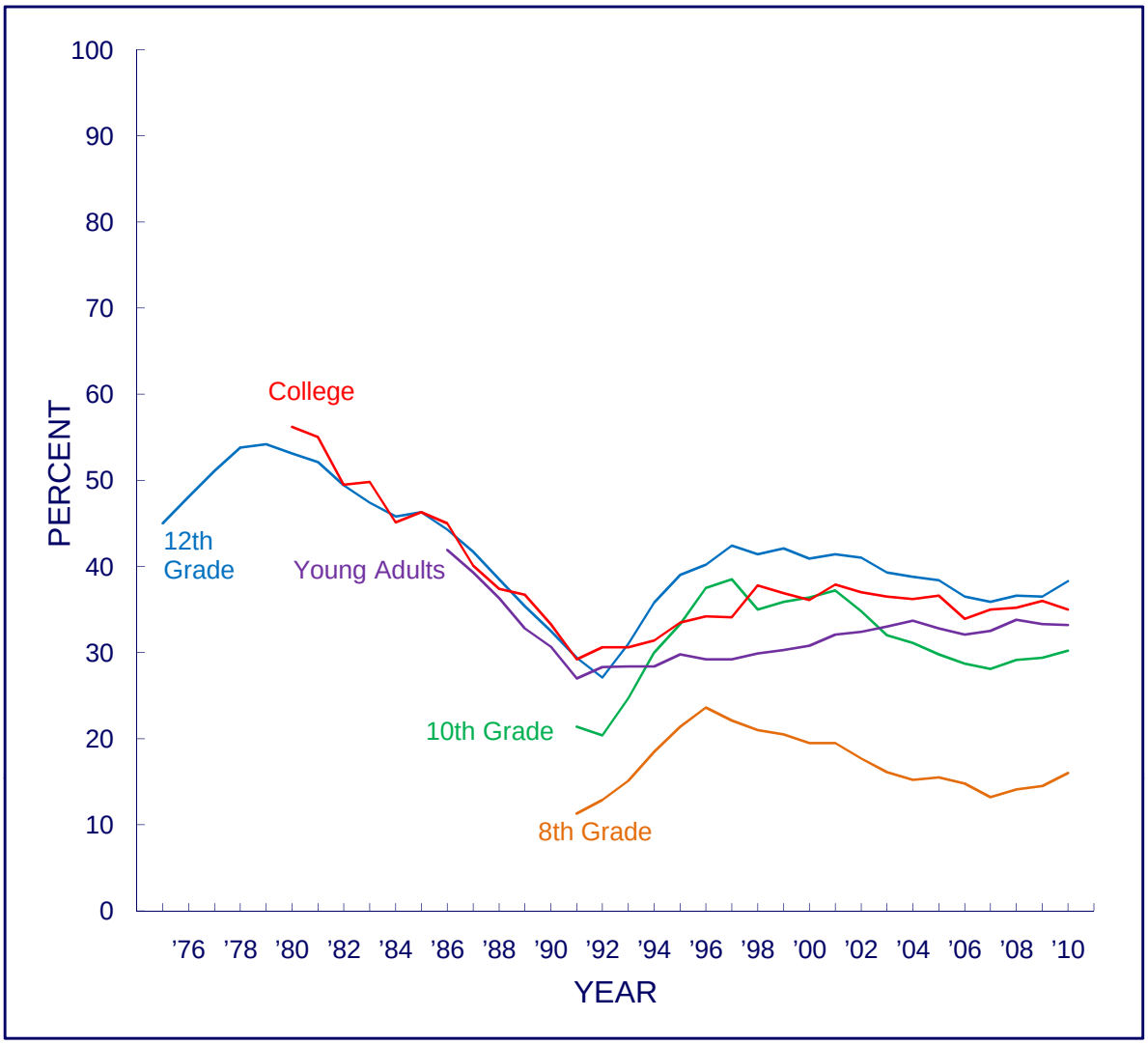
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
Marijuana/Hashish Daily[dd]																						
8th Grade	0.2	0.2	0.4	0.7	0.8	1.5	1.1	1.1	1.4	1.3	1.3	1.2	1.0	0.8	1.0	1.0	0.8	0.9	1.0	1.2	+0.3	s
10th Grade	0.8	0.8	1.0	2.2	2.8	3.5	3.7	3.6	3.8	3.8	4.5	3.9	3.6	3.2	3.1	2.8	2.8	2.7	2.8	3.3	+0.5	s
12th Grade	2.0	1.9	2.4	3.6	4.6	4.9	5.8	5.6	6.0	6.0	5.8	6.0	6.0	5.6	5.0	5.0	5.1	5.4	5.2	6.1	+0.9	s
College Students	1.8	1.6	1.9	1.8	3.7	2.8	3.7	4.0	4.0	4.6	4.5	4.1	4.7	4.5	4.0	4.3	3.5	3.9	4.9	4.4	-0.6	
Young Adults	2.3	2.3	2.4	2.8	3.3	3.3	3.8	3.7	4.4	4.2	5.0	4.5	5.3	5.0	4.9	5.0	5.0	5.1	5.4	5.3	-0.1	
Alcohol[t,dd]																						
Any Daily Use																						
8th Grade	0.5	0.6‡	1.0	1.0	0.7	1.0	0.8	0.9	1.0	0.8	0.9	0.7	0.8	0.6	0.5	0.5	0.6	0.7	0.5	0.5	0.0	
10th Grade	1.3	1.2‡	1.8	1.7	1.7	1.6	1.7	1.9	1.9	1.8	1.9	1.8	1.5	1.3	1.3	1.4	1.4	1.0	1.1	1.1	0.0	
12th Grade	3.6	3.4‡	3.4	2.9	3.5	3.7	3.9	3.9	3.4	2.9	3.6	3.5	3.2	2.8	3.1	3.0	3.1	2.8	2.5	2.7	+0.2	
College Students	4.1	3.7	3.9	3.7	3.0	3.2	4.5	3.9	4.5	3.6	4.7	5.0	4.3	3.7	4.6	4.8	4.3	4.0	4.3	3.6	-0.7	
Young Adults	4.9	4.5	4.5	3.9	3.9	4.0	4.6	4.0	4.8	4.1	4.4	4.7	5.1	4.5	5.2	5.4	5.6	5.3	5.3	4.6	-0.7	
Been Drunk Daily[u,dd]																						
8th Grade	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.0	
10th Grade	0.2	0.3	0.4	0.4	0.6	0.4	0.6	0.6	0.7	0.5	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.3	0.4	0.3	-0.1	
12th Grade	0.9	0.8	0.9	1.2	1.3	1.6	2.0	1.5	1.9	1.7	1.4	1.2	1.6	1.8	1.5	1.6	1.3	1.4	1.1	1.6	+0.5	
College Students	0.5	0.2	0.3	0.8	0.5	0.1	1.3	0.8	1.0	0.7	0.5	0.8	1.1	0.8	0.5	0.6	0.7	0.5	0.7	0.3	-0.4	
Young Adults	0.5	0.4	0.4	0.5	0.3	0.4	0.9	0.5	0.9	0.5	0.4	0.6	0.8	0.7	0.5	0.6	0.6	0.5	1.0	0.7	-0.3	
5+ Drinks in a Row in Last 2 Weeks																						
8th Grade	10.9	11.3	11.3	12.1	12.3	13.3	12.3	11.5	13.1	11.7	11.0	10.3	9.8	9.4	8.4	8.7	8.3	8.1	7.8	7.2	-0.6	
10th Grade	21.0	19.1	21.0	21.9	22.0	22.8	23.1	22.4	23.5	24.1	22.8	20.3	20.0	19.9	19.0	19.9	19.6	16.0	17.5	16.3	-1.1	
12th Grade	29.8	27.9	27.5	28.2	29.8	30.2	31.3	31.5	30.8	30.0	29.7	28.6	27.9	29.2	27.1	25.4	25.9	24.6	25.2	23.2	-2.1	s
College Students	42.8	41.4	40.2	40.2	38.6	38.3	40.7	38.9	40.0	39.3	40.9	40.1	38.5	41.7	40.1	40.2	41.1	40.0	36.9	37.0	+0.2	
Young Adults	34.7	34.2	34.4	33.7	32.6	33.6	34.4	34.1	35.8	34.7	35.9	35.9	35.8	37.1	37.0	37.6	37.8	37.9	36.7	35.9	-0.8	
Cigarettes																						
Any Daily Use																						
8th Grade	7.2	7.0	8.3	8.8	9.3	10.4	9.0	8.8	8.1	7.4	5.5	5.1	4.5	4.4	4.0	4.0	3.0	3.1	2.7	2.9	+0.2	
10th Grade	12.6	12.3	14.2	14.6	16.3	18.3	18.0	15.8	15.9	14.0	12.2	10.1	8.9	8.3	7.5	7.6	7.2	5.9	6.3	6.6	+0.3	
12th Grade	18.5	17.2	19.0	19.4	21.6	22.2	24.6	22.4	23.1	20.6	19.0	16.9	15.8	15.6	13.6	12.2	12.3	11.4	11.2	10.7	-0.4	
College Students	13.8	14.1	15.2	13.2	15.8	15.9	15.2	18.0	19.3	17.8	15.0	15.9	13.8	13.8	12.4	9.2	9.3	9.2	8.0	7.6	-0.4	
Young Adults	21.7	20.9	20.8	20.7	21.2	21.8	20.6	21.9	21.5	21.8	21.2	21.2	20.3	20.8	19.6	18.6	17.3	16.7	15.0	14.8	-0.3	
1/2 Pack+/Day																						
8th Grade	3.1	2.9	3.5	3.6	3.4	4.3	3.5	3.6	3.3	2.8	2.3	2.1	1.8	1.7	1.7	1.5	1.1	1.2	1.0	0.9	-0.1	
10th Grade	6.5	6.0	7.0	7.6	8.3	9.4	8.6	7.9	7.6	6.2	5.5	4.4	4.1	3.3	3.1	3.3	2.7	2.0	2.4	2.4	+0.1	
12th Grade	10.7	10.0	10.9	11.2	12.4	13.0	14.3	12.6	13.2	11.3	10.3	9.1	8.4	8.0	6.9	5.9	5.7	5.4	5.0	4.7	-0.3	
College Students	8.0	8.9	8.9	8.0	10.2	8.4	9.1	11.3	11.0	10.1	7.8	7.9	7.6	6.8	6.7	4.9	4.3	4.3	3.8	3.9	0.0	
Young Adults	16.0	15.7	15.5	15.3	15.7	15.3	14.6	15.6	15.1	15.1	14.6	14.2	13.9	13.5	12.5	11.9	11.1	10.2	9.3	9.3	0.0	
Smokeless Tobacco Daily[v]																						
8th Grade	1.6	1.8	1.5	1.9	1.2	1.5	1.0	1.0	0.9	0.9	1.2	0.8	0.8	1.0	0.7	0.7	0.8	0.8	0.8	0.9	+0.1	
10th Grade	3.3	3.0	3.3	3.0	2.7	2.2	2.2	2.2	1.5	1.9	2.2	1.7	1.8	1.6	1.9	1.7	1.6	1.4	1.9	2.5	+0.6	
12th Grade	—	4.3	3.3	3.9	3.6	3.3	4.4	3.2	2.9	3.2	2.8	2.0	2.2	2.8	2.5	2.2	2.8	2.7	2.9	3.1	+0.2	
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

Source. The Monitoring the Future study, the University of Michigan.

See relevant footnotes at the end of Table 2-1.

FIGURE 2-1
Trends in Annual Prevalence of an Illicit Drug Use Index across 5 Populations



Source. The Monitoring the Future study, the University of Michigan.

Notes. "Illicit drug use index" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use which is not under a doctor's orders of narcotics other than heroin, stimulants, sedatives (barbiturates), methaqualone (excluded since 1990), or tranquilizers. Beginning in 1982, the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of nonprescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

Chapter 3

STUDY DESIGN AND PROCEDURES

Monitoring the Future (MTF) incorporates several types of surveys into one study, yielding analytic power beyond the sum of those component parts. The components include cross-sectional studies, repeated cross-sectional studies, and panel studies of particular cohorts. The annual cross-sectional surveys provide point estimates of various behaviors and conditions in any given year for a number of subpopulations (e.g., 8th graders, 10th graders, 12th graders, college students, all young adult high school graduates ages 19–30, 35-year-olds, 40-year-olds, etc.), as well as point estimates for various subgroups within these different populations. Repeating these annual cross-sectional surveys over time allows an assessment of change across history in consistent age segments of the population, as well as among subgroups. The panel study feature permits the examination of developmental change in the same individuals as they enter and leave various adult roles and environments, assume adult responsibilities, and continue further into adulthood.

With a *series* of panel studies of sequential graduating class cohorts, in what is known as a cohort-sequential design, we are able to offer distinctions among, and explanations for, three fundamentally different types of change: period, age, and cohort. It is this feature that creates the synergistic effect in terms of analytic power.[20,21]

RESEARCH DESIGN AND PROCEDURES FOR THE TWELFTH–GRADE SURVEYS

Twelfth graders have been surveyed in the spring of each year since 1975. Each year's data collection takes place in approximately 120 to 146 public and private high schools selected to provide an accurate representative cross-section of 12th graders throughout the coterminous United States (see Figure 3-1).

The Population under Study

Senior year of high school is an optimal point at which to monitor drug use and related attitudes of youth. First, completion of high school represents the end of an important developmental stage in this society, demarcating both the end of universal education and, for many, the end of living full-time in the parental home. Therefore, it is a logical point at which to take stock of the

[20]For a more detailed description of the study design, see Bachman, J. G., Johnston, L. D., O'Malley, P. M., & Schulenberg, J. E. (2006). *The Monitoring the Future project after thirty-two years: Design and procedures* (Monitoring the Future Occasional Paper No. 64). Ann Arbor, MI: Institute for Social Research, available online at *http://www.monitoringthefuture.org/pubs/occpapers/occ64.pdf*.

[21]For a more detailed description of the full range of research objectives of Monitoring the Future, see Johnston, L. D., O'Malley, P. M., Schulenberg, J. E., & Bachman, J. G. (2006). *The aims and objectives of the Monitoring the Future study and progress toward fulfilling them as of 2006* (Monitoring the Future Occasional Paper No. 65). Ann Arbor, MI: Institute for Social Research, available online at http://www.monitoringthefuture.org/pubs/occpapers/occ65.pdf.

cumulated influences of these two major environments on American youth. Further, completion of high school represents the jumping-off point from which young people diverge into widely differing social environments and experiences. Thus senior year represents a good time to take a "before" measure, allowing calculation of changes that may be attributable to the many environmental and role transitions occurring in young adulthood, including college attendance. Finally, there were some important practical advantages to building the original system of data collections around samples of 12th graders. The need for systematically repeated, large-scale samples from which to make reliable estimates of change requires that considerable emphasis be put on cost efficiency as well as feasibility. The last year of high school constitutes the final point at which a reasonably good national sample of an age-specific cohort can be drawn and studied economically.

The Omission of Dropouts

One limitation in the MTF study design is the exclusion of individuals who drop out of high school before graduation—approximately 12–15% of each age cohort nationally, according to U.S. Census statistics. Clearly, the omission of high school dropouts introduces biases in the estimation of certain characteristics of the entire age group; however, for most purposes, the small proportion of students who drop out sets outer limits on the bias. Further, since the bias from missing dropouts should remain relatively constant from year to year, their omission should introduce little or no bias in *change* estimates. Indeed, we believe the changes observed over time for those who finish high school are likely to parallel the changes for dropouts in most instances. Appendix A to *Volume I* addresses in detail the likely effects of the exclusion of dropouts (as well as absentees from school) on estimates of drug use prevalence and trends among the entire age cohort.

Sampling Procedures and Sample Weights

A multistage random sampling procedure is used to secure the nationwide sample of 12th graders each year. Stage 1 is the selection of particular geographic areas, Stage 2 is the selection (with probability proportionate to size) of one or more high schools in each area, and Stage 3 is the selection of 12th graders within each high school. Up to about 350 twelfth graders in each school may be included. In schools with fewer 12th graders, the usual procedure is to include all of them in the data collection, though a smaller sample is sometimes taken (either by randomly sampling entire classrooms or by some other unbiased, random method) to accommodate the needs of the school. Weights are assigned to compensate for differential probabilities of selection at each stage of sampling. Final weights are normalized to average 1.0 (so that the weighted number of cases equals the unweighted number of cases overall). This three-stage sampling procedure has yielded the numbers of participating schools and students shown in Table 3-1.

Questionnaire Administration

About three weeks prior to the questionnaire administration date, parents of the target respondents are sent a letter by first-class mail, usually from the principal, announcing and describing the MTF study and providing them an opportunity to decline participation of their son or daughter if they wish. A flyer outlining the study in more detail is enclosed with the letter. Copies of the flyers are also given to the students by teachers in the target classrooms in advance of the date of administration. The flyers make clear that participation is entirely voluntary. Local

Institute for Social Research representatives and their assistants conduct the actual questionnaire administrations following standardized procedures detailed in an instruction manual. The questionnaires are administered in classrooms during a normal class period whenever possible; however, circumstances in some schools require the use of larger group administrations. Teachers are asked to remain present in the classroom to help maintain order, but to remain at their desks so that they cannot see students' answers.

Questionnaire Format

Because many questions are needed to cover all of the topic areas in the MTF study, much of the questionnaire content for 12th graders is divided into six different questionnaire forms distributed to participants in an ordered sequence that ensures six virtually identical random subsamples. (Five questionnaire forms were used between 1975 and 1988.) About one third of each form consists of key, or "core," variables common to all forms. All demographic variables, and nearly all of the drug *use* variables included in this report, are contained in this core set of measures. Many questions on attitudes, beliefs, and perceptions of relevant features of the social environment are in a single form only, and data are thus based on one fifth as many cases in 1975–1988 (approximately 3,300 per year) and on one sixth as many cases beginning in 1989 (approximately 2,500 per year). All tables in this report list the sample sizes upon which the statistics are based, stated in terms of the weighted number of cases (which, as explained above, is roughly equivalent to the actual number of cases).

RESEARCH DESIGN AND PROCEDURES FOR THE EIGHTH- AND TENTH-GRADE SURVEYS

In 1991, MTF was expanded to include nationally representative samples of 8th- and 10th-grade students surveyed on an annual basis. In general, the procedures used for the annual in-school surveys of 8th- and 10th-grade students closely parallel those used for 12th graders, including the selection of schools and students, questionnaire administration, and questionnaire format. A major exception is that only two different questionnaire forms were used from 1991 to 1996, expanding to four forms beginning in 1997, rather than the six used for 12th graders. The 8th and 10th graders receive the same questionnaire forms; most of the content is drawn from the 12th-grade surveys, including the core section. Thus, key demographic variables and measures of drug use and related attitudes and beliefs are generally identical for all three grades. Many fewer questions about other values and attitudes are included in the 8th- and 10th-grade forms, in part because we think that many of them are likely to be more fully formed by 12th grade and, therefore, are best monitored there.

About 17,000 eighth-grade students in approximately 150 schools (mostly middle schools) and about 15,000 tenth-grade students in approximately 130 schools are surveyed each year (see Table 3-1).

Mode of Administration

From 1991 to 1993, follow-ups for 8th and 10th graders were administered similarly to those for 12th graders.[22] When follow-up surveys of new 8th- and 10th-grade cohorts were discontinued, the collection of personal identification information was no longer necessary. For confidentiality reasons, this personal information had been gathered on a tear-off sheet at the back of each questionnaire. We believed that there were potential advantages in moving toward a fully anonymous procedure for these grade levels, including the following: (a) school cooperation might be easier to obtain; (b) any suppression effect on self-reported substance use that the confidential mode of administration might have could be both eliminated and quantified; and (c) if there *were* any mode of administration effect, it would be removed from the national data, which are widely compared with results of state and local surveys (nearly all of which use anonymous questionnaires), thus making those comparisons more valid. Therefore, in 1998, the half sample of schools beginning their two-year participation in MTF received fully anonymous questionnaires, while the half sample participating for their second and final year continued to get confidential questionnaires. Since 1999, all questionnaires administered to 8th and 10th graders have been fully anonymous.

A careful examination of the 1998 results, based on the two equivalent half samples at grades 8 and 10, revealed that there was no effect of this methodological change among 10th graders, and at most, only a very modest effect in self-reported substance use rates among 8th graders (with prevalence rates slightly higher in the anonymous condition).[23] All tables and figures in *Volume I* use data from both half samples of 8th graders surveyed in a given year, combined. This is also true for 10th graders (for whom we found no methodological effect) and 12th graders (for whom it is assumed there is no such effect, since none was found among the 10th graders). (See this chapter's later section entitled "Representativeness and Sample Accuracy" for a further discussion of half samples among all three grades.)

Questionnaire Forms and Sample Proportions

Another benefit of not interlocking the 8th- and 10th-grade samples was that we could consider having more forms of the questionnaire. Beginning in 1997, the number of forms was expanded to four, but the four forms are not distributed in equal numbers. Forms 1, 2, 3, and 4 are assigned to one third, one third, one sixth, and one sixth of the students, respectively. Thus, if a question appears on only one form, it is administered to either one third or one sixth of the sample. A question in two forms may be assigned to one third of the sample (one sixth plus one sixth), one half of the sample (one third plus one sixth), or two thirds of the sample (one third plus one third). No questions appear on exactly three forms. Footnotes to the tables indicate what proportion of all respondents in each grade complete the question, if that proportion is other than the entire sample.

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[22]A book reporting results from analyses of these panels was published in 2008: Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education–drug use connection: How successes and failures in school relate to adolescent smoking, drinking, drug use, and delinquency.* New York: Lawrence Erlbaum Associates/Taylor & Francis.

[23]We have examined in detail the effects of administration mode using multivariate controls to assess the effects of the change on 8th-grade self-report data. Our findings generally show even less effect than is to be found without such controls. See O'Malley, P. M., Johnston, L. D., Bachman, J. G., & Schulenberg, J. E. (2000). A comparison of confidential versus anonymous survey procedures: Effects on reporting of drug use and related attitudes and beliefs in a national study of students. *Journal of Drug Issues, 30,* 35–54.

The two additional forms were introduced to allow for more questions. The new Forms 1 and 2 substantially follow the content of the previous Forms 1 and 2, but each is now assigned to a third of the sample instead of half. Form 3 builds on Form 1, with some questions omitted to make room for more content; and Form 4 builds on the content of Form 2 in a similar manner. Much of the new content was placed in both of the new forms (Forms 3 and 4), each of which is administered to one sixth of the sample, in order to assign one third of the total sample to those new measures.

RESEARCH DESIGN AND PROCEDURES FOR THE TWELFTH-GRADE FOLLOW-UP SURVEYS

Beginning with the graduating class of 1976, some members of each 12th-grade class have been selected to be surveyed by mail after high school graduation. From the 13,000–19,000 twelfth graders originally participating in a given senior class, a representative sample of 2,400 individuals is randomly chosen for follow-up. In order to ensure sufficient numbers of drug users in the follow-up surveys, 12th graders reporting 20 or more occasions of marijuana use in the previous 30 days (i.e., "daily users"), or *any* use of the other illicit drugs in the previous 30 days, are selected with higher probability (by a factor of 3.0) than the remaining 12th graders. Differential weighting is then used in all follow-up analyses to compensate for these differential sampling probabilities. Because those in the drug-using stratum receive a weight of only 0.33 in the calculation of all statistics to correct for their overrepresentation at the selection stage, there are actually more follow-up respondents than are reported in the weighted *N*s given in the tables; and in recent years actual numbers average about 23% higher than the weighted numbers. The 2,400 participants selected from each 12th-grade class are randomly split into two groups of 1,200 each—one group to be surveyed on even-numbered calendar years in a series of biannual follow-up surveys, and the other group to be surveyed on odd-numbered years also in a series of biannual follow-up surveys. This two-year cycle is intended to reduce respondent burden, thus yielding better retention rates. By alternating the two half samples, we have data from a given graduating class every year, even though any given respondent participates only every other year.

Until 2002, each respondent was surveyed biennially up to seven times; at the seventh follow-up, which would occur either 13 or 14 years after graduation, the respondents had reached modal age 31 or 32. Beginning in 2002, as a cost-saving measure, the seventh biennial follow-up was discontinued, and each respondent was surveyed every other year until modal age 29 or 30. Additional follow-ups then occur at modal ages 35, 40, 45, and 50. Data like these, gathered on representative national samples over such a large portion of the life span, are extremely rare and can provide needed insight into the etiology and life-course history of substance use and related behaviors, including those related to HIV transmission.

Follow-Up Procedures

Using information provided by 12th-grade respondents on a tear-off card (containing the respondent's name, address, and phone number, and the name and address of someone who would always know how to reach them), mail contact is maintained with the subset of people selected for inclusion in the follow-up panels. Newsletters are sent to them each year, and name

and address corrections are requested from both the U.S. Postal Service and the individual. Questionnaires are sent to each individual biennially in the spring. A check, made payable to the respondent, is attached to the front of each questionnaire.[24] Reminder letters and postcards are sent at fixed intervals thereafter; telephone callers attempt to gather up-to-date location information for those respondents with whom we are trying to make contact; and, finally, those whom we can contact, but who have not responded, receive a prompting phone call from the Survey Research Center's phone interviewing facility in Ann Arbor, Michigan. If requested, a second copy of the questionnaire is sent, but no questionnaire content is administered by phone. If a respondent asks not to be contacted further, that wish is honored.

Follow-Up Questionnaire Format

The questionnaires used in the follow-up surveys of 19- to 30-year-olds parallel those used in 12th grade. Many of the questions are the same (including the core section dealing with drug use), and respondents are consistently mailed the same version (or form) of the questionnaire that they first received in 12th grade, so that *changes over time* in their behaviors, attitudes, experiences, and so forth can be measured. Questions specific to high school status and experiences are dropped in the follow-up, of course, and questions relevant to post–high school status and experiences are added (mostly in the core section). These deal with college, military service, civilian employment, marriage, parenthood, and so on. For the five-year surveys beginning at age 35, both half-samples from a class cohort are surveyed simultaneously; and much of the questionnaire content is maintained, but streamlined (only one form is used) with more focus on the major family and work issues relevant to respondents ages 35 to 50; we have also added measures of substance use disorders.

For the early follow-up cohorts, the numbers of cases on single-form questions were one fifth the size of the total follow-up sample because five different questionnaire forms were used. Beginning with the class of 1989, a sixth form was introduced in 12th grade. That new questionnaire form was first sent to follow-up respondents in 1990. Single-form data since then have *N*s one sixth the total follow-up sample size. In the follow-up studies, single-form samples from a single cohort are too small to make reliable estimates; therefore, in most cases where they are reported, the data from several adjacent cohorts are combined.

REPRESENTATIVENESS AND SAMPLE ACCURACY

School Participation

Schools are invited to participate in the MTF study for a two-year period. For each school that declines to participate, a similar school (in terms of size, geographic area, urbanicity, etc.) is recruited as a replacement. In 2010, either an original school or a replacement school was obtained in 97% of the sample units. With very few exceptions, each school participating in the first year has agreed to participate in the second year as well. Figure 3-2 provides the year-

[24]Until 1991, the follow-up checks were for $5. After an experiment indicated that an increase was warranted, the check amount was raised to $10 beginning with the class of 1992. The check amount was raised to $20 in 2004, and to $25 beginning in 2008.

specific school participation rates and the percentage of units filled since 1977. As shown in the figure, replacements for declining schools are obtained in the vast majority of cases.

Two questions are sometimes raised with respect to school participation rates: (a) Are participation rates sufficient to ensure the representativeness of the sample? (b) Does variation in participation rates over time contribute to changes in estimates of drug use?

With respect to the first issue, the selection of replacement schools (which occurs in practically all instances of an original school refusal) almost entirely removes problems of bias in region, urbanicity, and the like that might result from certain schools refusing to participate. Other potential biases could be more subtle, however. If, for example, it turned out that most schools with "drug problems" refused to participate, the sample would be seriously biased. And if any other single factor were dominant in most refusals, that reason for refusal might also suggest a source of serious bias. However, the reasons given for a school refusing to participate tend to be varied and are often a function of happenstance specific to that particular year; only a very small proportion object specifically to the drug-related survey content.

If it were the case that schools differed substantially in drug use, then which particular schools participated could have a greater effect on estimates of drug use. However, the great majority of variance in drug use lies *within* schools, not between schools.[25] For example, between 1991 and 2002, the between-schools variance for annual marijuana use was 4.0–5.3% of the total variance for each of the three grades; for inhalant use, 1.6–2.7%; for cocaine use, 1.2–2.2%; for alcohol use, 3.5–6.1%; and for cigarette use, 2.1–5.2%. To the extent that schools tend to be fairly similar in drug use, which particular schools participate (within a selection framework that seeks national representation) has a small effect on estimates of drug use.[26] Further, some, if not most, of the between-schools variance is due to differences related to region, urbanicity, etc.—factors that remain well controlled in the present sampling design.

With respect to the second issue, it is extremely unlikely that results have been significantly affected by changes in school participation rates. If changes in participation rates seriously affected prevalence estimates, there would be noticeable bumps up or down in concert with the changing rates. But this series of surveys produces results that are very smooth and change in an orderly fashion from one year to the next. Moreover, different substances trend in distinctly different ways; we have observed, for example, marijuana use decreasing while cocaine use was stable (in the early 1980s), alcohol use declining while cigarette use was stable (in the mid- to late 1980s), and marijuana use increasing while inhalant use was decreasing (from 1994 to 1997). All of these patterns are explainable in terms of psychological, social, and cultural factors and cannot be explained by the common factor of changes in school participation rates.

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[25]O'Malley, P. M., Johnston, L. D., Bachman, J. G., Schulenberg, J. E., & Kumar, R. (2006). How substance use differs among American secondary schools. *Prevention Science, 7*, 409–420.

[26]Among participating schools, there is very little difference in substance use rates between the schools that were original selections, taken as a set, and the schools that were replacements. Averaged over the years 1991 through 2000, for grades 8, 10, and 12 combined, the difference between original schools and replacement schools averaged 0.03% in the observed prevalence rates averaged across a number of drug use measures: two indexes of annual illicit drug use, the annual prevalence of each of the major illicit drug classes, and several measures of alcohol and cigarette use. For the individual drugs and drug indexes, the differences between the original and replacement schools, averaged across grades and years, fell within $\pm$0.9%.

Of course, there could be some sort of constant bias across the years; but even in the unlikely event that there is, it seems highly improbable that it would be of much consequence for policy purposes, given that it would not affect trends and likely would have a very modest effect on prevalence rates. Thus we have a high degree of confidence that school refusal rates have not seriously biased the survey results.

Nevertheless, securing the cooperation of schools has become more difficult in recent years. This is a problem common to the field, not specific to MTF. Therefore, beginning with the 2003 survey, we have provided payment to schools as a means of increasing their incentive to participate. (By that time, several other ongoing school-based survey studies already were using payments to schools.)

At each grade level, half of each year's sample comprises schools that started their participation the previous year, and half comprises schools that began participating in the current year. (Both samples are national replicates, meaning that each is drawn to be nationally representative by itself.) This staggered half sample design is used to check on possible errors in the year-to-year trend estimates due to school turnover. For example, separate sets of one-year trend estimates are computed based on students in the half sample of schools that participated in both 2008 *and* 2009, then based on the students in the half sample that participated in both 2009 *and* 2010, and so on. Thus, each one-year *matched half sample* trend estimate derived in this way is based on a constant set of schools (about 65 in 12th grade, for example, over a given one-year interval). When the trend data derived from the matched half sample (examined separately for each class of drugs) are compared with trends based on the total sample of schools, the results are usually highly similar, indicating that the trend estimates are affected little by school turnover or shifting participation rates. As would be expected, the *absolute* prevalence-of-use estimates for a given year are not as accurate using just the half sample because the sample size is only half as large.

Student Participation

In 2010, completed questionnaires were obtained from 88% of all sampled students in 8th grade, 87% in 10th grade, and 85% in 12th grade (see Table 3-1 for response rates in earlier years). In most cases, students are missed due to absence from class at the time of data collection; for reasons of cost efficiency, we typically do not schedule special follow-up data collections for absent students. Because students with fairly high rates of absenteeism also report above-average rates of drug use, some degree of bias is introduced into the prevalence estimates by missing the absentees. Much of that bias could be corrected through the use of special weighting based on the reported absentee rates provided by the students who *did* respond; however, we decided not to use such a weighting procedure because the bias in overall drug use estimates was determined to be quite small *and* the necessary weighting procedures would have introduced greater sampling variance in the estimates.[27] Appendix A in this report illustrates the changes in trend and prevalence estimates that would result if corrections for absentees had been included. Of course, some students simply refuse, when asked, to complete a questionnaire. However, the proportion of explicit refusals amounts to less than 1.5% of the target sample for each grade.

[27]See appendix A in the following publication for a discussion of this point: Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1984). *Drugs and American high school students: 1975–1983* (DHHS (ADM) 85-1374). Washington, DC: U.S. Government Printing Office.

Sampling Accuracy of the Estimates

Confidence intervals (95%) are provided in Tables 4-1a through 4-1d for lifetime, annual, 30-day, and daily prevalence of use for 8th-, 10th-, and 12th-grade students. As can be seen in Table 4-1a, confidence intervals for lifetime prevalence for 12th graders average less than ±1.4% across a variety of drug classes. That is, if we took a large number of samples of this size from the universe of all schools containing 12th graders in the coterminous United States, 95 times out of 100 the sample would yield a result that would be less than 1.4 percentage points divergent from the result we would get from a comparable massive survey of *all* 12th graders in *all* schools. This is a high level of sampling accuracy, permitting detection of fairly small changes from one year to the next. Confidence intervals for the other prevalence periods (last 12 months, last 30 days, and current daily use) are generally smaller than those for lifetime use. In general, confidence intervals for 8th and 10th graders are very similar to those observed for 12th graders. Some drugs (smokeless tobacco, PCP, and others, as indicated in the footnotes for Tables 2-1 to 2-4) are measured on only one or two questionnaire forms; these drugs will have somewhat larger confidence intervals due to their smaller sample sizes. Appendix C provides information on how to calculate confidence intervals around other point estimates, as well as information needed to compare trends across time or to test the significance of differences between subgroups in any given year.

PANEL RETENTION

We discuss here the nature of the panel attrition problem generally, the response rates for MTF panel surveys in recent years, and evidence relevant to assessing the impact of attrition on the study's research results.

The Problem of Panel Attrition

Virtually all longitudinal studies of drug use experience attrition, which is often differential with respect to substance use.[28] In addition, survey response rates in general have been declining over the past few decades,[29] highlighting an important challenge in the conduct of population-based research.

A vital feature of the MTF panel studies is their very low cost per respondent. There are many advantages to collecting panel data through low-cost mail surveys, as we have done since the outset of the study. Indeed, given the number of questionnaires sent each year (roughly 18,000) across the entire coterminous United States, using low-cost mail surveys is our best (and really the only) cost-effective option. One disadvantage of this mode of data collection is that attrition rates tend to be higher than those that might be obtained with much more expensive methods, such as intensive personal tracking and interviewing. Certainly there exist a few large epidemiological/etiological surveys that have better retention rates, but their procedures are extremely expensive and not realistic for an ongoing effort like this one. Nevertheless, our

[28]McGuigan, K. A., Ellickson, P. L., Hays, R. D., & Bell, R. M. (1997). Adjusting for attrition in school-based samples: Bias, precision, and cost trade-off of three methods. *Evaluation Review, 21,* 554–567.

[29]Groves, R. M., Dillman, D. A., Eltinge, J. L., & Little, R. J. A. (Eds.) (2002). *Survey nonresponse.* New York: Wiley.

retention rates compare favorably with those of most longitudinal studies (including interview studies) reported in the field.

Response Rates

The MTF series of survey data on American college students now encompasses 31 years. We know about our respondents' actual college attendance only from those who are invited to and do complete follow-up questionnaires; however, we can use 12th-grade questionnaire answers (i.e., college intentions/expectations and program of study) to predict college attendance with a high degree of accuracy. MTF's retention of 12th graders identified as "college-bound" remains quite good. Among those participants in high school who were targeted for follow-up, *and* who reported planning to attend college and being enrolled in a college-prep curriculum, the follow-up retention rates for the three most recent classes surveyed at each follow-up point were: 61% in the first follow-up, one to two years past high school (based on the classes of 2007–2009); 58% in the second follow-up, three to four years past high school (based on the classes of 2005–2007); and 57% in the third follow-up, five to six years past high school (based on the classes of 2003–2005). These rates compare quite favorably with another national survey of substance use among college students, the Harvard College Alcohol Study, which had cross-sectional response rates of 59% in 1997 and 1999, and 52% in 2001.[30] To date in *Volume II*, we have reported only on college students who are one to four years past high school graduation. As the average age of attendance rises, having the extended age coverage will be of growing importance.

Retention rates in the biennial follow-ups of *all* panel members modal ages 19–30 (corresponding to the first six follow-ups) decline with the length of the follow-up interval, of course. For the five surveys from 2006 to 2010, the response rate in the first follow-up (corresponding to one to two years past high school) averaged 54%; and for the second through sixth follow-ups (corresponding to 3–12 years past high school) response rates averaged 50%. Among long-term respondents—the 35-, 40-, 45-, and 50-year-olds—the retention rates are quite good, apparently because some of the decline with age in retention rates reflects cohort differences. Among the 35-year-old respondents surveyed from 2006 to 2010, corresponding to 17 years past high school, the average response rate was 45%. Among 40-year-old respondents surveyed from 2006 to 2010, corresponding to a 22-year follow-up interval, the average retention rate was 48%. Among 45-year-olds surveyed in 2006 to 2010, the average retention rate was 54%; and among 50-year-olds who have been surveyed only since 2008, the response rate averaged 57%. In sum, the response rates attained under the current design range from respectable to quite good, especially when the low-cost nature of the procedures, the very long time intervals, and the substantial length of the questionnaires are taken into account. More importantly, the evidence leaves us confident that the data resulting from these follow-up panels are reasonably accurate, which brings us to our adjustments for panel attrition and the comparison of our results with those from other sources.

The Impact of Panel Attrition on Research Results

An important purpose of the MTF follow-ups is to allow estimation of drug prevalence rates among American high school graduates at various age levels. Thus, we have always been

[30]Wechsler, H., Lee, J. E., Kuo, M., Seibring, M., Nelson, T. F., & Lee, H. (2002). Trends in college binge drinking during a period of increased prevention efforts: Findings from 4 Harvard School of Public Health College Alcohol Study surveys: 1993–2001. *Journal of American College Health, 50,* 203–217.

concerned about making the appropriate adjustments to account for panel attrition. In essence, our standard adjustment process is a poststratification procedure in which we reweight the data obtained from the follow-up samples so that their reweighted 12th-grade distribution on a given drug reproduces the original distribution of use observed for that drug, which was based on all participating 12th graders. This procedure is carried out separately for cigarettes, alcohol, and marijuana, as well as other illicit drugs (combined). As expected, this produces prevalence estimates that are somewhat higher than those uncorrected for attrition, indicating that there is indeed some positive association between drug use and panel attrition. However, the adjustments are relatively modest, as documented next.

One reason the adjustments are modest is that attrition rates do not differ greatly by levels of 12th-grade substance use; they differ some, but less than one might expect. For example, among all respondents who had never used marijuana, an average of 79% of the classes of 1976–1998 participated in the first follow-up. The proportion responding is somewhat lower among those who had used marijuana just once or twice in the last 12 months: 75%. This proportion decreases gradually with increasing levels of marijuana use; but even among those who used marijuana on 20 or more occasions in the last 30 days in 12th grade, 67% participated in the first follow-up. The corresponding participation rates for the same drug use strata at the fourth follow-up (i.e., at modal ages 25–26) were 66%, 63%, and 56%, respectively. Thus, even among those who were quite heavy users of marijuana in high school, response rates at the fourth follow-up were only 10 percentage points lower than among those who had never used marijuana by 12th grade. That is not to say that we assume all types of drug users remain in the panels at comparably high rates. We believe that people who become dependent on or addicted to heroin or cocaine are unlikely to be retained in reasonable proportions. That is why we are careful not to quantify or characterize these special segments of the population. But we note that they constitute very low proportions of the drug-using portion of the population, and even lower proportions of the entire adult population.

The National Survey on Drug Use and Health (NSDUH) seems to provide the best available data against which to validate the estimates generated for adult age groups in MTF because it is also based on national samples, but uses cross-sectional surveys that do not carry the burden of panel attrition. Their results, of course, may be affected by their own nonresponse rates; but that will be true of any comparison survey. The overall response rate for NSDUH in 2009 was 76%.

In some earlier analyses, we compared the prevalence rates on a set of drugs—cigarettes, alcohol, marijuana, and cocaine—for which there was reasonable similarity in question wording across the two studies. The comparisons that follow are for the age group 19–28 in the MTF panel data, and for 19–29 in the NSDUH cross-sectional data. We used the most recent readily available comparable data (2009), but similar results are found in a number of prior years. Other things equal, NSDUH should have higher rates than MTF because it includes school dropouts. In fact, however, the MTF estimates for 30-day marijuana and 12-month cocaine use, when the post-stratification weights are applied, are actually higher than the NSDUH estimates: 17.0% versus 15.8% for marijuana, and 5.2% versus 5.1% for cocaine. Even when the post-stratification weights are not applied, the MTF estimates are only slightly lower than the NSDUH estimates: 15.3% versus 15.8% for marijuana, and 4.8% versus 5.1% for cocaine. The fact that the MTF estimates for both marijuana and cocaine are similar to those observed in NSDUH, suggests that

attrition does not produce substantially lower estimates of drug use than would be obtained if response rates were higher—particularly after our poststratification procedure is applied.

Comparisons for alcohol and cigarettes show larger differences, with alcohol use consistently higher in MTF and cigarette use consistently higher in NSDUH. We believe it likely that both are due to definitional differences in the exact question wording. In 2009, MTF estimate of 30-day alcohol prevalence was 69.1% (69.4% with poststratification) versus 65.9% in NSDUH. For cigarettes, the 30-day MTF prevalence estimate was 21.0% (23.3% with poststratification), versus 36.7% in NSDUH. (Because cigarette smoking rates are particularly high among dropouts, some of this difference should be explainable by differences in the populations covered by the two studies.) It is worth noting that the nature and magnitude of the differences between MTF and NSDUH estimates tend to be quite consistent for each of the four drugs at least as far back as 1992.

Even with attrition, substantial proportions of recent drug users remain in the MTF follow-up samples. In recent years, about 15–17% of the 19- to 28-year-old respondents reported marijuana use in just the prior 30 days, and about 5–7% reported cocaine use in the past 12 months. These proportions and the underlying numbers of actual cases are quite adequate for analytic purposes.

An important point worth emphasizing here is that in the MTF panel, attrition is not as great a problem as in a cross-sectional study, because much is already known about each of the follow-up nonrespondents, including their substance use, based on extensive questionnaire responses in 12th grade (and, for many, in subsequent years as well). Thus, adjustments can be made utilizing data that are highly informative about the missing individuals.

Effects on Relational Analyses

While differential attrition (uncorrected) may contribute to some bias in point estimates and other univariate statistics, such attrition tends to have less influence on bivariate and multivariate statistics. This was found to be true in a secondary analysis of data from seven panel studies that followed adolescents over time,[31] and we have found this to be true in MTF panel analyses[32] and in analyses with other panel data sets.[33] Thus, differential attrition may be of less concern in multivariate panel analyses focused on understanding the course, causes, and consequences of substance use. Still, as we summarized above, correcting for attrition can be important, and we continue to do it.

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[31]Cordray, S., & Polk, K. (1983). The implication of respondent loss in panel studies of deviant behavior. *Journal of Research in Crime and Delinquency, 20,* 214–242.

[32]Bryant, A. L., Schulenberg, J. E., Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (2000). Understanding the links among school misbehavior, academic achievement, and cigarette use: A national panel study of adolescents. *Prevention Science, 1*(2), 71–87; Schulenberg, J. E., Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (1994). High school educational success and subsequent substance use: A panel analysis following adolescents into young adulthood. *Journal of Health and Social Behavior, 35,* 45–62.

[33]Bachman, J. G., O'Malley, P. M., & Johnston, J. (1978). *Youth in Transition: Vol. 6. Adolescence to adulthood: A study of change and stability in the lives of young men.* Ann Arbor, MI: Institute for Social Research; Schulenberg, J. E., Bryant, A. L., & O'Malley, P. M. (2004). Taking hold of some kind of life: How developmental tasks relate to trajectories of well-being during the transition to adulthood. *Development and Psychopathology, 16,* 1119–1140.

VALIDITY OF MEASURES OF SELF-REPORTED DRUG USE

Are sensitive behaviors such as drug use honestly reported? Like most studies dealing with sensitive behaviors, we have no direct, totally objective validation of the present measures; however, the considerable amount of existing inferential evidence strongly suggests that the MTF self-report questions produce largely valid data. Here we briefly summarize this evidence.[34]

First, using a three-wave panel design, we established that the various measures of self-reported drug use have a high degree of reliability—a necessary condition for validity.[35] In essence, respondents were highly consistent in their self-reported behaviors over a three- to four-year time interval. Second, we found a high degree of consistency among logically related measures of use within the same questionnaire administration. Third, the proportion of 12th graders reporting some illicit drug use has reached two thirds of all respondents in peak years and over 80% in some follow-up years, constituting *prima facie* evidence that the degree of underreporting must be very limited. Fourth, 12th graders' reports of use by their unnamed friends—about whom they would presumably have considerably less reason to conceal information about use—have been highly consistent with self-reported use in the aggregate, in terms of both prevalence *and* trends in prevalence, as discussed in chapter 9. Fifth, we have found self-reported drug use to relate in consistent and expected ways to a number of other attitudes, behaviors, beliefs, and social situations—strong evidence of construct validity. Sixth, the missing data rates for the self-reported use questions are only very slightly higher than for the preceding nonsensitive questions, in spite of explicit instructions to respondents immediately preceding the drug section to leave blank those questions they felt they could not answer honestly. Seventh, an examination of consistency in reporting of lifetime use conducted on the long-term panels of graduating seniors found quite low levels of recanting of earlier reported use of the illegal drugs.[36] There was a higher level of recanting for the psychotherapeutic drugs, suggesting that adolescents may actually overestimate their use of some drugs because of misinformation about definitions that is corrected as they get older. Finally, the great majority of respondents, when asked, say they would answer such questions honestly if they were users.[37]

This is not to argue that self-reported measures of drug use are necessarily valid in all studies. In MTF we have gone to great lengths to create a situation and set of procedures in which

[34]A more complete discussion may be found in: Johnston, L. D., & O'Malley, P. M. (1985). Issues of validity and population coverage in student surveys of drug use. In B. A. Rouse, N. J. Kozel, & L. G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57 (ADM) 85-1402). Washington, DC: U.S. Government Printing Office; Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1984). *Drugs and American high school students: 1975–1983* (DHHS (ADM) 85-1374). Washington, DC: U.S. Government Printing Office; Wallace, J. M., Jr., & Bachman, J. G. (1993). Validity of self-reports in student-based studies on minority populations: Issues and concerns. In M. de LaRosa (Ed.), *Drug abuse among minority youth: Advances in research and methodology* (NIDA Research Monograph No. 130). Rockville, MD: National Institute on Drug Abuse.

[35]O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of the Addictions, 18*, 805–824.

[36]Johnston, L. D., & O'Malley, P. M. (1997). The recanting of earlier reported drug use by young adults. In L. Harrison (Ed.), *The validity of self-reported drug use: Improving the accuracy of survey estimates* (NIDA Research Monograph No. 167, pp. 59–80). Rockville, MD: National Institute on Drug Abuse.

[37]For a discussion of reliability and validity of student self-report measures of drug use like those used in MTF across varied cultural settings, see Johnston, L. D., Driessen, F. M. H. M., & Kokkevi, A. (1994). *Surveying student drug misuse: A six-country pilot study*. Strasbourg, France: Council of Europe.

respondents recognize that their confidentiality will be protected. We have also tried to present a convincing case as to why such research is needed. The evidence suggests that a high level of validity has been obtained. Nevertheless, insofar as any remaining reporting bias exists, we believe it to be in the direction of underreporting. Thus, with the possible exception of the psychotherapeutic drugs, we believe our estimates to be lower than their true values, even for the obtained samples, but not substantially so.

As an additional step to assure the validity of the data, we check for logical inconsistencies in the answers to the triplet questions about use of each drug (i.e., lifetime, annual, and 30-day), and if a respondent exceeds a minimum number of inconsistencies across the set of drug use questions, his or her record is deleted from the data set. Similarly, we check for improbably high rates of use of multiple drugs and delete such cases, assuming that the respondents are not taking the task seriously. Fortunately, relatively few cases have to be eliminated for these reasons.

Consistency and Measurement of Trends

MTF is designed to be sensitive to changes from one time period to another. A great strength of this study is that the measures and procedures have been standardized and applied consistently across many years. To the extent that any biases remain because of limits in school and/or student participation, and to the extent that there are distortions (lack of validity) in the responses of some students, it seems very likely that such problems will exist in much the same proportions from one year to the next. In other words, biases in the survey estimates will tend to be consistent from one year to another, meaning that our measurement of *trends* should be affected very little. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

TABLE 3-1
Sample Sizes and Response Rates

	Number of Public Schools			Number of Private Schools			Total Number of Schools				Total Number of Students				*Student Response Rate (%)*		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	Total	8th	10th	12th	Total	*8th*	*10th*	*12th*
1975	—	—	111	—	—	14	—	—	125	—	—	—	15,791	—	—	—	*78*
1976	—	—	108	—	—	15	—	—	123	—	—	—	16,678	—	—	—	*77*
1977	—	—	108	—	—	16	—	—	124	—	—	—	18,436	—	—	—	*79*
1978	—	—	111	—	—	20	—	—	131	—	—	—	18,924	—	—	—	*83*
1979	—	—	111	—	—	20	—	—	131	—	—	—	16,662	—	—	—	*82*
1980	—	—	107	—	—	20	—	—	127	—	—	—	16,524	—	—	—	*82*
1981	—	—	109	—	—	19	—	—	128	—	—	—	18,267	—	—	—	*81*
1982	—	—	116	—	—	21	—	—	137	—	—	—	18,348	—	—	—	*83*
1983	—	—	112	—	—	22	—	—	134	—	—	—	16,947	—	—	—	*84*
1984	—	—	117	—	—	17	—	—	134	—	—	—	16,499	—	—	—	*83*
1985	—	—	115	—	—	17	—	—	132	—	—	—	16,502	—	—	—	*84*
1986	—	—	113	—	—	16	—	—	129	—	—	—	15,713	—	—	—	*83*
1987	—	—	117	—	—	18	—	—	135	—	—	—	16,843	—	—	—	*84*
1988	—	—	113	—	—	19	—	—	132	—	—	—	16,795	—	—	—	*83*
1989	—	—	111	—	—	22	—	—	133	—	—	—	17,142	—	—	—	*86*
1990	—	—	114	—	—	23	—	—	137	—	—	—	15,676	—	—	—	*86*
1991	131	107	117	31	14	19	162	121	136	419	17,844	14,996	15,483	48,323	*90*	*87*	*83*
1992	133	106	120	26	19	18	159	125	138	422	19,015	14,997	16,251	50,263	*90*	*88*	*84*
1993	126	111	121	30	17	18	156	128	139	423	18,820	15,516	16,763	51,099	*90*	*86*	*84*
1994	116	116	119	34	14	20	150	130	139	419	17,708	16,080	15,929	49,717	*89*	*88*	*84*
1995	118	117	120	34	22	24	152	139	144	435	17,929	17,285	15,876	51,090	*89*	*87*	*84*
1996	122	113	118	30	20	21	152	133	139	424	18,368	15,873	14,824	49,065	*91*	*87*	*83*
1997	125	113	125	27	18	21	152	131	146	429	19,066	15,778	15,963	50,807	*89*	*86*	*83*
1998	122	110	124	27	19	20	149	129	144	422	18,667	15,419	15,780	49,866	*88*	*87*	*82*
1999	120	117	124	30	23	19	150	140	143	433	17,287	13,885	14,056	45,228	*87*	*85*	*83*
2000	125	121	116	31	24	18	156	145	134	435	17,311	14,576	13,286	45,173	*89*	*86*	*83*
2001	125	117	117	28	20	17	153	137	134	424	16,756	14,286	13,304	44,346	*90*	*88*	*82*
2002	115	113	102	26	20	18	141	133	120	394	15,489	14,683	13,544	43,716	*91*	*85*	*83*
2003	117	109	103	24	20	19	141	129	122	392	17,023	16,244	15,200	48,467	*89*	*88*	*83*
2004	120	111	109	27	20	19	147	131	128	406	17,413	16,839	15,222	49,474	*89*	*88*	*82*
2005	119	107	108	27	20	21	146	127	129	402	17,258	16,711	15,378	49,347	*90*	*88*	*82*
2006	122	105	116	29	18	20	151	123	136	410	17,026	16,620	14,814	48,460	*91*	*88*	*83*
2007	119	103	111	32	17	21	151	120	132	403	16,495	16,398	15,132	48,025	*91*	*88*	*81*
2008	116	103	103	28	19	17	144	122	120	386	16,253	15,518	14,577	46,348	*90*	*88*	*79*
2009	119	102	106	26	17	19	145	119	125	389	15,509	16,320	14,268	46,097	*88*	*89*	*82*
2010	120	105	104	27	18	22	147	123	126	396	15,769	15,586	15,127	46,482	*88*	*87*	*85*

Source. The Monitoring the Future study, the University of Michigan.

FIGURE 3-1
Schools included in 1 Year's Data Collection
8th, 10th, and 12th Grades

Source. The Monitoring the Future study, the University of Michigan.
Note. One dot equals one school.

FIGURE 3-2
School Participation Rates

Percent of slots filled by...	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
Original	59	63	62	63	71	71	66	72	67	66	72	71	68	70	59	55	60	53	52	53	51	51	57	62	56	49	53	62	63	59	58	53	54	58
Replacements	39	36	35	32	25	26	32	26	29	33	26	26	30	29	39	43	39	44	44	43	47	48	42	35	42	48	45	37	34	40	39	43	44	39
Total	98	99	97	95	96	97	99	98	96	99	99	98	99	99	98	98	99	97	96	96	98	99	99	97	98	97	98	99	97	99	97	96	98	97

Source. The Monitoring the Future study, the University of Michigan.

Chapter 4

PREVALENCE OF DRUG USE IN EARLY AND MIDDLE ADULTHOOD

Longitudinal panel studies such as those included in MTF are most typically used to examine developmental changes with age, by tracking the same individuals across years. We do this in many of our publications, but here we use the multiple cohort feature of the MTF design to provide a cross-age snapshot of the prevalence of substance use in a given year from early through middle adulthood. We will see that use tends to be higher in the early post–high school age groups, corresponding to the new freedoms associated with leaving high school and often moving away from the parental home.[38] But sometimes there are also strong cohort effects that underlie differences among age groups at a given point in time; in this chapter we will see evidence of both age and cohort effects.

Estimates of drug use in the adult population are most often generated through household survey interviews of cross-sections of the general population. In the present study, our estimates come from self-completed mail questionnaires from respondents in the follow-up surveys. These are representative samples of previous classes of high school students who started their participation in MTF in their senior year. As described in more detail in chapter 3, MTF has conducted ongoing panel studies on representative samples from each graduating high school senior class beginning with the class of 1976. From each class, two matched subpanels of roughly 1,200 students each are randomly selected to comprise long-term follow-up panels—one of these two panels is surveyed every even-numbered year after graduation, and the other is surveyed every odd-numbered year, up through age 30. So, while each cohort participates every year, each respondent participates only every other year. This alternating panel design was chosen to reduce the repetitiveness (and burden) of participating in the panel study while still allowing for full age coverage between 19 and 30.Thus, in a given year, the study encompasses one of the two panels from each of the last 12 senior classes previously participating in MTF.[39] In 2010, representative samples of the classes of 1998 through 2009—ages 19 to 30—were surveyed, using the standard young adult survey instruments. For brevity, we refer to this 19- through 30-year-old age group as "young adults" in this chapter.

To build on these important national panels of young adults, we have extended the surveys into middle adulthood. The middle adulthood surveys are conducted at modal age 35 (that is, 17 years after high school graduation) and at five-year intervals thereafter. In each of these later follow-ups, the two half panels from the relevant graduating class are both surveyed, using a single

[38]Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities.* Mahwah, NJ: Lawrence Erlbaum Associates; see also Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education–drug use connection: How successes and failures in school relate to adolescent smoking, drug use, and delinquency*. New York: Lawrence Erlbaum Associates/Taylor & Francis.

[39]Through 2001, the follow-ups also included modal ages 31 and 32. This seventh follow-up was dropped in 2002 because we believed that the costs were no longer justified by the marginal benefits of having these follow-up data, given that an age-35 survey was being conducted. Throughout the time between surveys, we send annual newsletters to respondents in order to help maintain contact.

questionnaire form instead of six forms. The content of the questionnaires is revised to some degree across age to be more relevant to the different developmental periods. The results of the 2010 follow-up surveys characterize the population of high school graduates ages 19–30 and ages 35, 40, 45, and 50. The high school dropout segment (perhaps 11%–15%) was missing from the senior year surveys and, as a result, is missing from all of the follow-up surveys as well. Thus, the results presented here are not necessarily generalizable to that small segment of the population.

Figures 4-1 through 4-21 contain 2010 *prevalence* data by age, corresponding to respondents ages 19–30, as well as 35-, 40-, 45-, and 50-year-olds. For comparison purposes, data are also included for the 2010 high school senior class, listed as 18-year-olds. Figures provided in chapter 5 contain the *trend* data for each of these age groups derived from the repeated cross-sectional surveys, including 12th graders and high school graduates through age 50. In the figures in chapters 4 and 5, age groups spanning the young adult years have been paired into two-year intervals in order to increase the number of cases, and thus the precision, for each point estimate. The data for ages 35, 40, 45, and 50 are, of necessity, based on a single age in each case. As indicated above, *both* half samples from a given class cohort are included in each year's samples of 35-, 40-, 45-, and 50-year-olds. In 2010 the paired half samples come from the graduating classes of 1993, 1988, 1983, and 1978, respectively. Their respective weighted numbers of cases are 919, 940, 875, and 994. (Actual unweighted numbers are somewhat higher, because those from the oversampled drug-using stratum in high school are counted as only one-third of a case in the weighted data.)

It is worth noting that the pattern of age-related differences showing up in any one year can be checked in an adjacent year (i.e., the previous year's volume or the succeeding year's) for replicability, because two nonoverlapping half samples of follow-up respondents in the 19-to-30 age band are surveyed on alternating years. In the case of the 35-, 40-, 45-, and 50-year-olds, two entirely different graduating classes make up the samples for any two adjacent years.

A NOTE ON ADJUSTED LIFETIME PREVALENCE ESTIMATES

In Figures 4-1 through 4-21, two different estimates of *lifetime* prevalence are provided. One estimate is based on the respondent's *most recent* (i.e., 2010) statement of whether he or she ever used the drug in question (the light gray bar). The other estimate takes into account the respondent's answers regarding lifetime use gathered in *all* of the previous data collections in which he or she participated (the white bar). *To be categorized as one who has used the drug based on all past answers regarding that drug, the respondent must have reported either lifetime use in the most recent data collection and/or some use in his or her lifetime on at least two earlier data collections.* Because respondents of ages 18 through 20 cannot have their responses adjusted on the basis of two earlier data collections, adjusted prevalence rates are reported only for ages 21 and up. Most other epidemiological studies can present only an unadjusted estimate because they have data from a single cross-sectional survey. An adjusted estimate of the type used here is possible only when panel data have been gathered so that a respondent can be classified as having used a drug at some time in his or her life, based on earlier answers, even though he or she no longer indicates lifetime use in the most recent survey.

The divergence of these two estimates as a function of age shows that there is more inconsistency as time passes. Obviously, there is more opportunity for inconsistency as the number of data collections increases. Our judgment is that "the truth" lies somewhere between the two estimates: the lower estimate may be depressed by tendencies to forget, forgive, or conceal earlier use, and the upper estimate may include earlier response errors or incorrect definitions of drugs that respondents appropriately corrected in later surveys as they became more knowledgeable. It should be noted that a fair proportion of those giving inconsistent answers across time had earlier reported having used the given drug only once or twice in their lifetime.

As we have reported elsewhere, the cross-time stability of self-reported usage measures, taking into account both prevalence and frequency of self-reported use, is still very high.[40] Note that the divergence between the two lifetime prevalence estimates is greatest for the psychotherapeutic drugs and for the derivative index of "use of an illicit drug other than marijuana," which is heavily affected by the psychotherapeutic drug estimates. We believe this is due to respondents having greater difficulty accurately categorizing psychotherapeutic drugs (usually taken in pill form) with a high degree of certainty—especially if such a drug was used only once or twice. We expect higher inconsistency across time when the event—and in many of these cases, a single event—is reported with a relatively low degree of certainty at quite different points in time. Those who have gone beyond simple experimentation with one of these drugs would undoubtedly be able to categorize them with a higher degree of certainty. Also, those who have experimented more recently, in the past month or year, should have a higher probability of recall, as well as fresher information for accurately categorizing the drug.

We provide both estimates to make clear that a full use of respondent information provides a possible range for lifetime prevalence estimates, not a single point. However, by far the most important use of the prevalence data is to track *trends* in *current* (as opposed to lifetime) use. Thus, we are much less concerned about the nature of the variability in the lifetime estimates than we might otherwise be. The lifetime prevalence estimates are of importance primarily in showing the degree to which a drug class has penetrated the general population overall as well as particular cohorts; we believe that the evidence from the lifetime estimates suggests that cross-sectional surveys of adults are subject to underreporting, and that to a degree such underreporting increases with age, because adolescence and early adulthood are the periods in the life course during which most drug use occurs.[41]

The reader is reminded that the reweighting procedures used to correct the panel data for the effects of panel attrition are described in chapter 3.

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[40]O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of the Addictions, 18*, 805–824.

[41]For a more detailed analysis and discussion, see Johnston, L. D., & O'Malley, P. M. (1997). The recanting of earlier-reported drug use by young adults. In L. Harrison & A. Hughes (Eds.), *The validity of self-reported drug use: Improving the accuracy of survey estimates* (NIDA Research Monograph No. 97-4147). Washington, DC: National Institute on Drug Abuse. Available at http://archives.drugabuse.gov/pdf/monographs/monograph167/059-080_Johnston.pdf

PREVALENCE OF DRUG USE AS A FUNCTION OF AGE

Figures 4-1 through 4-21 provide 2010 prevalence rates for each class of drugs, covering respondents ages 18 to 50. For virtually all drugs, available age comparisons show much higher *lifetime* prevalence for the older age groups, as would be expected. In fact, the figures reach surprisingly high levels among adults in their early 30s through their 50s.

- The *adjusted lifetime prevalence* figures are most striking for today's 50-year-olds (the high school class of 1978), who were passing through adolescence near the peak of the drug epidemic. Some 89% reported trying ***an illicit drug*** (lifetime prevalence, adjusted), leaving only 11%, or about one in every nine, who reported never having done so (Figure 4-1). Some 80% of 50-year-olds said they had tried ***marijuana***, and three quarters (75%) said they had tried some ***other illicit drug***, including 45% who had tried ***cocaine*** specifically. The adjusted lifetime prevalence figures for 45-year-olds (the class of 1982) are similar to 50-year-olds. Clearly, the parents of today's teenagers and young adults are themselves a very drug-experienced generation.

- In 2010, the adjusted lifetime prevalence figures among 29- to 30-year-olds reach 73% for ***any illicit drug***, 69% for ***marijuana***, 50% for ***any illicit drug other than marijuana***, and 23% for ***cocaine***. Put another way, even among young Americans who graduated from high school in 1998 and 1999—after the peak of the larger drug epidemic, but near the peak of the relapse phase in the epidemic—only about one quarter (27%) have *never* tried an illegal drug.

  The 2010 survey responses, *unadjusted* for previous answers, show somewhat lower lifetime prevalence for 29- to 30-year-olds: 66% for ***any illicit drug***, 64% for ***marijuana***, 40% for ***any illicit drug other than marijuana***, and 20% for ***cocaine***.

- Despite the higher lifetime prevalence rates among older age groups, these groups generally show *annual* or *30-day* prevalence rates that are no higher than those of today's 12th graders. Indeed, for a number of drugs, the levels reported by older respondents are lower—sometimes considerably lower—suggesting that the incidence of quitting more than offsets the incidence of initiating use of these drugs during the years after high school.

  In analyses published elsewhere, we looked closely at patterns of change in drug use with age and identified post–high school experiences that contribute to declining levels of annual or current use of drugs as respondents grow older. For example, the likelihood of marriage increases with age, and we have found that marriage is consistently associated

with declines in ***alcohol*** use, ***heavy drinking***, ***marijuana*** use, and ***cocaine*** use, and most likely just about all of the other illicit drugs as well.[42]

- For use of ***any illicit drug*** (Figure 4-1), 2010 lifetime prevalence (unadjusted) is 66% among 29- to 30-year-olds versus 48% among twelfth graders. Annual prevalence is highest among 21- to 22-year-olds and 12th graders in 2010 (both at 38%), and lowest among the older age groups, reaching 26–27% among 27- to 30-year-olds and 17% among 40-year-olds. Current (30-day) prevalence shows the rate generally declining with each age band, from 24% among 12th graders to 14% among 29- to 30-year-olds.

- Lifetime prevalence rates for ***marijuana***, ***any illicit drug***, and ***any illicit drug other than marijuana*** generally increase with each age level, except for a dip among 35-year-olds, from the class of 1992, who graduated at a low point in the larger drug use epidemic. (This pattern is true for several other illicit drugs.) However, annual and 30-day prevalence rates generally decline slightly across ages 18 to 35, and then remain fairly level through age 50. Thus, it is clear that greater proportions of the older cohorts have discontinued use. (Figures 4-1, 4-2, and 4-3).

  Current ***daily marijuana*** use shows the least variation across age (as shown in Figure 5-3c). Still, in 2010 it ranges from 4–6% for those respondents 18- to 30-years-old to about 2–4% for those 35 years and older. (Clearly, most respondents who were daily users at some point in their teenage years are no longer daily users.) Note again the evidence of a cohort effect, in that the 50-year-olds had a higher rate of marijuana use when they were high school seniors (1977) than did those who are now 35 years old (class of 1992), and the 35-year olds have a lower lifetime prevalence than either the older or younger age groups.

- Adjusted rates for lifetime use of ***any illicit drug other than marijuana*** (Figure 4-2) show an appreciable rise with age, reaching 50% among the 29- to 30-year-old age group and 75% among 50-year-olds. In other words, half of today's 30-year-olds have tried some illicit drug other than marijuana, and three quarters of all 50-year-olds have done so. Current use shows a slight decline across age bands, ranging from 9% among 12th graders to 5–6% among 40-, 45-, and 50-year-olds. After ages 23–24, annual use is generally lower with increased age of the respondent. A number of the individual drugs that comprise this general category show lower rates of use at higher ages for annual prevalence, usually with the highest rate observed at ages 18–22. This is particularly true for ***amphetamines***, ***hallucinogens***, ***LSD*** specifically, and ***inhalants***. The falloff with age is not as great nor as consistent for ***cocaine***, ***crack***, ***other cocaine***, ***crystal***

[42]Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities.* Mahwah, NJ: Lawrence Erlbaum Associates; and Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Bryant, A. L., & Merline, A. C. (2002). *The decline of substance use in young adulthood: Changes in social activities, roles, and beliefs*. Mahwah, NJ: Lawrence Erlbaum Associates. See also Schulenberg, J. E., O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (2000). "Spread your wings and fly": The course of well-being and substance use during the transition to young adulthood. In L. J. Crockett & R. K. Silbereisen (Eds.), *Negotiating adolescence in times of social change* (pp. 224–255). New York: Cambridge University Press. And see O'Malley, P. M., Bachman, J. G., Johnston, L. D., & Schulenberg, J. E. (2004). Studying the transition from youth to adulthood: Impacts on substance use and abuse. In J. S. House, F. T. Juster, R. L. Kahn, H. Schuman, & E. Singer (Eds.), *A telescope on society: Survey research and social science at the University of Michigan and beyond* (pp. 305–329). Ann Arbor, MI: The University of Michigan Press.

methamphetamine (***ice***), ***heroin***, ***narcotics other than heroin***, ***sedatives*** (***barbiturates***), ***and tranquilizers***, though in general, usage rates are somewhat lower among those in their 30s than among those in their early 20s. Several of these classes of drugs are discussed individually next.

- ***Inhalants*** show some very interesting differences across age strata (Figure 4-13). There is a modest difference across age in contemporaneously reported lifetime prevalence, but a considerable difference in the lifetime prevalence figure *adjusted* for previous reporting of use. The adjusted pattern—an increase with age—is the one we have come to expect, and we believe is the more accurate one. Annual prevalence rates drop off with age, while 30-day rates already are quite low by 12th grade and can drop only a little. Clearly, current use of inhalants is almost absent beyond about age 20, and we know from data presented in *Volume I* that much of the decline in use with age has already occurred by the time young people have reached 10th grade. Questions on inhalant use are not included in the surveys administered to respondents over the age of 30, given the negligible rates of current use reported for those over age 24.

- For ***amphetamines***, lifetime prevalence is much higher among the older age groups—reflecting in part the addition of new users who initiate use in their 20s, but also reflecting some cohort differences (Figure 4-4). As is true for most psychotherapeutic drugs, corrected lifetime prevalence and contemporaneously reported lifetime prevalence diverge considerably. However, more recent use, as reflected in the annual prevalence figure, is considerably lower among the older age groups. This has not always been true; the present pattern reflects a sharper historic decline in use among older respondents than has occurred among 12th graders, as well as cohort differences in having ever used these drugs. These trends are discussed in the next chapter.

- ***Ritalin***, an amphetamine widely prescribed for the treatment of attention deficit hyperactivity disorder or ADHD, shows some drop-off in annual prevalence of non-medical use from 2.2% at ages 21–22 to 1.0% at ages 27–28. ***Adderall***, a similar and newer drug, shows a higher annual prevalence of non-medical use in 2010, compared to Ritalin, and also drops off in use with age, from 8–9% among 19- to 22-year-olds to 3.0% among 29- to 30-year-olds. The higher rates of use among those in their early 20s are consistent with the interpretation that initially Ritalin and perhaps now Adderall are used by college students and perhaps graduate students trying to stay awake and alert for studying and completing assignments (Table 4-3). Respondents over age 30 are not asked about Ritalin and Adderall use.

- Questions on the use of ***methamphetamine*** are contained in two of the six questionnaire forms for young adults, making estimates less reliable than those based on all six forms. Unadjusted lifetime use increases with age, from 0.7% for 19- to 20-year-olds to 10.6% for 29- to 30-year-olds, and adjusted figures are only slightly higher. Annual prevalence does not vary with age, however, remaining at 0–1% from ages 18–30 (Table 4-3 and Figure 4-5.) Respondents over age 30 are not asked about methamphetamine use.

- ***Crystal methamphetamine*** (***ice***) is also included on only two questionnaire forms through age 30 and is not asked of older respondents. Among the 19- to 30-year-old respondents *combined*, only 0.4% now report any use in the prior year—not very different from the 0.9% reported by 12th graders (Table 4-3 and Figure 4-6).

- ***Sedatives*** (***barbiturates***) show lifetime prevalence rates that are fairly similar across the age band 23 through 40, but are appreciably higher among 45- and 50-year-olds. This is consistent with the sharp falloff in sedative use among 12th graders in the early years of the study, giving rise to a cohort effect. *Annual* use falls only very gradually with age from age 18 to 23–24, but then remains fairly constant at around 2–3% through age 50 (Figure 4-14). At present, past 30-day usage rates are quite low at all ages; it is highest for age 18 at 2.2%. Because of the substantial long-term decline in sedative (barbiturate) use over the life of MTF, the 50-year-olds have, by far, the highest adjusted lifetime prevalence rate (31%).[43]

- Annual prevalence of use of ***narcotics other than heroin*** is highest in the 18–30 age range (at 7% to 10%), compared to 5% among 45- and 50-year-olds. Thirty-day prevalence shows a somewhat similar profile. Figure 4-15 shows the cohort effects of the upturn in the use of narcotic drugs in recent years, with those ages 23–35 having higher lifetime prevalence rates than 40-year-olds.

- Similarly, ***tranquilizer*** use shows a general increase with age in lifetime prevalence through age 30, again reflecting the increased use among adolescents in the 1990s; lifetime prevalence is lower among those age 35. The highest lifetime rates are found among those over 35—with the oldest cohorts having much higher levels. Despite that fact, there is some modest decrease with age in annual prevalence after age 30. Thirty-day prevalence is 2–3% among 18- to 35-year-olds, and 1–2% thereafter (Figure 4-16).

- ***Cocaine*** had generally presented a unique case among the illicit drugs, in that lifetime, annual, and current prevalence rates have *all* tended to rise with age into the 20s. By 1994, however, 30-day cocaine use had reached such low levels that it varied rather little by age. Following the resurgence of cocaine use in the 1990s, some differences by age in annual prevalence emerged, though there are still rather few differences for current prevalence (Figure 4-7). Annual prevalence is now highest among respondents ages 21 through 24 and falls off gradually after that. The cohort differences in lifetime cocaine use are particularly vivid, with the 45- and 50-year-olds showing 38% and 45% adjusted lifetime prevalence rates in 2010, respectively, compared to 12% among 21- to 22-year-olds. Very few (less than 1%) of the 35- to 50-year-olds today are current users of cocaine, despite the fact that so many of them have used it at least once in their lifetime.

[43]Barbiturates were the dominant form of sedatives in use when these questions were first introduced. In the intervening years, a number of nonbarbiturate sedatives have entered the market and largely displaced barbiturates. We believe that a number of users of nonbarbiturate sedatives are reporting them in answer to this question, which also defines them in terms of the conditions for which they are prescribed. In recognition of this fact, we now label them as "sedatives (barbiturates)." The rewording of the question was made in half of the questionnaire forms in 2004 and in the other half in 2005.

- In 2010, lifetime prevalence of ***crack*** use (Figure 4-8) rises fairly steadily between the age 19 to 20 stratum (2%) and the age 29 to 30 stratum (5%, unadjusted); it is considerably higher among 45- and 50-year-olds (10–11%, unadjusted), reflecting something of a cohort effect due to the rather transient popularity of crack in the early to mid-1980s, and a brief resurgence in the mid-1990s. Current prevalence is 0.7% or below in all of these age groups. Annual prevalence is highest among 18-year-olds at 1.4% and between 0.3% and 0.8% for all other age groups. We believe that the omission of high school dropouts is likely to have a greater than average impact on the prevalence estimates for crack. It also seems likely that any panel respondents who become dependent on crack (or other illicit drugs like heroin) would be less likely than average to respond to the questionnaires; therefore, such extreme users are no doubt underrepresented among the panel respondents.

- ***Ecstasy*** (***MDMA***) was added to two of the six follow-up questionnaire forms in 1989 to assess how widespread its use had become among young adults. It was added to a third form in 2002. Questions about its use were not asked of high school students until 1996, primarily because of concern that its alluring name might stimulate interest in the drug. That concern diminished considerably after the drug had become more widely known. Ecstasy use is not asked of respondents 35 years of age and older.

  In 2010, among all 19- to 30-year-olds combined, 14% say they have tried ***ecstasy***; among 12th graders, 7.3% say they have used it. (Respondents over age 30 are not asked the question.) The age differences in ecstasy use are quite dramatic, with adjusted lifetime prevalence increasing sharply with age and highest (22%) at ages 29–30 (Figure 4-17). This very likely reflects the rapid rise in ecstasy use between 1997 and 2001, and the subsequent sharp decline. However, since annual prevalence is highest among 19- to 20-year-olds (at 5%) and lowest among 29- to 30-year-olds (at 1%), there clearly has been a high degree of non-continuation among those in their late 20s. Past-month ecstasy use is now at 1% or less for all age groups between 19 and 30.

- A question about the use of ***salvia*** was introduced into one questionnaire in 2009 as a single "tripwire question" asking only the frequency of use in the past year (Table 4-3). Salvia is not currently regulated by the federal government, and although some states have made the drug illegal, it is not an illegal substance in most states. Salvia has some mild hallucinogenic properties, and there has been considerable media attention to its potential for harm. It appears that salvia is popular primarily among the younger end of the young adults, with annual prevalence rates in 2010 between 3% and 5% among 19- to 26-year-olds versus between 0.5% and 0.9% among those ages 27–30.

- Another drug introduced for the first time in 2009 was ***Provigil***, a prescription stay awake drug (Table 4-3). It appears that this drug has not made serious inroads in the young adult population; annual prevalence, as determined by a single "tripwire question," was only 0.5% among those ages 19–30, without any clear relationship to age.

- All ***alcohol*** prevalence rates are higher among young adults than among 12th graders, and they generally increase for the first three to five years after high school, through age

23 or 24 (Figures 4-20a and 4-20b). Prevalence rates vary only modestly among the older age groups. Lifetime prevalence changes very little after ages 23 to 24, due in large part to a "ceiling effect." Current (30-day) alcohol use peaks at 75% for ages 23–24 compared to 41% for 12th graders and 69% for 29- to 30-year-olds; it doesn't vary much across the age strata after that (67% at ages 45 and 50). Current ***daily drinking*** (Figure 4-20b) is also slightly higher and level among those 21 to 35 years old (5–6%) versus among those 18 to 20 (2–3%). The highest rate of daily drinking is among 40-, 45-, and 50-year-olds (7–11%).

- Among the various measures of alcohol consumption, ***occasions of heavy drinking*** (i.e., having five or more drinks in a row on at least one occasion in the two weeks prior to the survey) shows some considerable differences by age (Figure 4-20b). There is a large difference between 18-year-olds (23%) and 21- to 24-year-olds, who have the highest prevalence of such heavy drinking (39–40%). Then there is a falloff at each subsequent age level above age 24, dropping to 18% by age 50. We have interpreted this curvilinear relationship as reflecting an age effect—not a cohort effect—because it seems to replicate across different graduating class cohorts, and also because it has been linked directly to age-related events such as leaving the parental home (which increases heavy drinking) and marriage (which decreases it), both of which are, in turn, related to attending college.[44]

- ***Cigarette smoking*** also shows an unusual pattern of age-related differences (Figure 4-21). Current (30-day) smoking rates used to be about the same among those in their early 20s and 12th graders, partly because most initiation of cigarette use happens in high school. Beginning in 2005, however, current smoking was somewhat lower among 12th graders, almost surely due to the sharp drop in smoking that has been occurring among secondary school students—a cohort effect evident as early as 8th grade. Smoking at heavier levels such as a half pack daily is (and has been) higher among those in their 20s than among 12th graders, as many light or moderate smokers in high school move into a pattern of heavier use after high school.[45] About a quarter (24%) of current 12th-grade smokers use at the rate of a half pack or more per day (5% report smoking a half pack or more while 19% report smoking generally), compared to 45% of current smokers ages 29 to 30 (11% smoking a half pack+, 24% smoking generally), and about three quarters (72%) of 50-year-old current smokers (14% a half pack or more, 20% smoking generally). The prevalence of half-pack-per-day smoking rises from 5% among 18-year-olds to 11% by ages 25–26, is level through age 35, falls to 9% among 40-year-olds, and is at 13–14% among those ages 45 to 50.

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[44]O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1988). Period, age, and cohort effects on substance use among young Americans: A decade of change, 1976–1986. *American Journal of Public Health, 78*, 1315–1321. See also Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities.* Mahwah, NJ: Lawrence Erlbaum Associates.

[45]Because age is confounded with class cohort, and because we have established that cigarette smoking shows strong cohort effects (enduring differences among cohorts), one must be careful in interpreting age-related differences in a cross-sectional sample as if they were due only to age effects—that is, changes with age consistently observable across cohorts. However, multivariate analyses conducted on MTF panel data from multiple cohorts do show a consistent age effect of the type mentioned here (see O'Malley, Bachman, & Johnston, 1988, in previous footnote).

- Questions on ***steroid*** use (Figure 4-18) were added to one form in 1989 and to an additional form in 1990, making it difficult to determine age-related differences with much accuracy due to limited sample sizes. Overall, 1.7% of all 19- to 30-year-olds in 2010 reported having used steroids in their lifetime. Annual and 30-day rates among 12th graders tend to be a bit higher than among older age groups. Steroid questions are not asked of 35- to 50-year-old respondents.

In sum, lifetime prevalence rates in some of the older age groups studied here, who passed through adolescence in the heyday of the drug epidemic, show impressively high lifetime rates of illicit drug use—particularly when lifetime prevalence is corrected for the recanting of earlier reported use. However, *current* use of most illicit drugs is substantially lower among those over age 30 than among those in their late teens to early 20s. For the two licit drugs, alcohol and cigarettes, the picture is different, with less falloff in active use with age.

PREVALENCE COMPARISONS FOR SUBGROUPS OF YOUNG ADULTS

Subgroup differences for 19- to 30-year-olds are presented in Tables 4-1 through 4-5. While Table 4-1 provides only gender differences, the remaining tables have prevalence rates by gender, age, region of the country, and population density. Each of these subgroup dimensions is discussed separately below.

Gender Differences

In general, most of the gender differences in drug use that were observed in high school students may be found in the young adult (19- to 30-year-old) sample as well. See Tables 4-3 for the full set of gender comparisons.

- Among young adults, more males than females report using ***any illicit drug*** during the prior year (37% vs. 29%). Males have higher annual prevalence rates for nearly all illicit drugs—with ratios of two times greater or more for ***inhalants***, ***hallucinogens***, ***hallucinogens other than LSD***, ***Salvia***, ***heroin without a needle***, ***Provigil***, ***methamphetamine***, ***GHB***, and ***steroids*** (Table 4-3).

- All three measures of ***cocaine*** use showed higher rates of use by male than female 19- to 30-year-olds. Annual ***cocaine*** use was reported by 6.3% of males and 3.5% of females, ***powder cocaine*** use by 6.1% of males and 3.5% of females, and ***crack*** use by 0.7% of males and 0.4% of females.

- Other large gender differences among 19- to 30-year-olds are found in ***daily marijuana*** use (7.2% for males vs. 3.6% for females), ***daily alcohol*** use (7.5% vs. 3.1%), and occasions of drinking ***five or more drinks in a row*** in the prior two weeks (46% vs. 28%). The gender difference in occasions of drinking five or more drinks in a row is larger among young adults than among 12th graders, where it is 28% for males versus 18% for females.

- ***Ecstasy*** (***MDMA***) use is slightly higher among males than among females in the young adult sample overall with annual prevalence of 3.9% and 2.6%, respectively.

- Annual prevalence of use of ***narcotics other than heroin*** outside of medical supervision is at 10.0% for males and 7.8% for females. Use of ***Vicodin***, one of the most widely used drugs in the class, is 9.1% and 7.5%, respectively. There is a similar proportional gender difference for ***OxyContin*** (4.1% for males vs. 2.6% for females).

- The use of ***amphetamines*** is a little higher among males than among females with annual prevalence of 7.7% and 5.6%, respectively.

- In the 1980s, there were few differences between males and females in their rates of ***cigarette*** use. By the early 1990s, however, males had slightly higher rates of use. In 2010, 19- to 30-year-old males are more likely than females to have smoked in the past month (27% vs. 20%), to have smoked daily in the past month (18% vs. 13%), and to have smoked half a pack or more per day in the past month (11.3% vs. 8.4%). These gender differences reflect a cohort effect in which the differences between the genders in high school during the 1990s are carried up the age spectrum.

- ***Steroid*** use among young adults is much more prevalent among males than females, as is true for 12th graders. Among 12th graders, 2.5% of males reported steroid use in the past year versus 0.3% of females. These statistics are much lower among 19- to 30-year-olds, but use by males remains considerably higher (1.6% for males vs. 0.1% for females).

Regional Differences

Follow-up respondents are asked in what state they currently reside. States are then grouped into the same regions used in the analysis of high school data.[46] Tables 4-2 through 4-5 present regional differences in lifetime, annual, 30-day, and current daily prevalence for 19- to 30-year-olds combined.

- There exist some regional differences in the use of ***marijuana***, with the Northeast and West somewhat higher than the South and Midwest. The Northeast and West are also slightly higher in the proportion using ***any illicit drug*** and ***any illicit drug other than marijuana*** (Table 4-3).

- ***Methamphetamine*** use is highest in the West (annual prevalence of 1.1%), as it has been for a long time; the other regions are between 0.4% and 0.6% (Table 4-3).

- The use of ***crystal methamphetamine*** (***ice***) by 19- to 30-year-olds is also highest in the West (0.7% annual prevalence), 0.5% in the South, and below 0.4% in the other two regions.

[46]States are grouped into regions as follows: ***Northeast***—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania; ***Midwest***—Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; ***South***—Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas; ***West***—Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

- The West and Northeast continue to have higher rates than the other two regions for ***hallucinogen*** use, though the regional differences are not large.

- For ***ecstasy*** (***MDMA***), annual prevalence is higher in the West (5.2%) than in the other three regions (1.8% to 3.4%).

- Use of the club drugs ***GHB*** and ***Ketamine*** is now very low in all regions, with annual prevalence rates at or below 1.2% in all regions (Table 4-3). ***Rohypnol*** was dropped from the post-high school questionnaires in 2010 due to very low prevalence.

- Annual prevalence rates for ***steroid*** use are also very low (0.3–0.6%) in all regions except the West, which has an annual prevalence rate of 1.3% in 2010 among 19- to 30-year-olds.

- For the remaining ***illicit drugs***, regional differences are not substantial (Tables 4-3 and 4-4).

- Prevalence rates for ***alcohol*** use are typically somewhat higher in the Northeast and Midwest regions than in the South and West; this pattern has generally been true among 12th graders as well. For ***binge drinking*** among 19- to 30-year-olds, the Northeast and Midwest both have a prevalence rate of 41%, whereas the West and South have rates of 33% and 29%. Self-reported ***drunkenness*** shows a similar pattern, as would be expected.

- As with alcohol, ***cigarette smoking*** among young adults is highest in the Midwest and Northeast, which both have 30-day prevalence rates of 25%. It is a little lower in the South (22%) and lower still in the West (19%). This difference is most pronounced at the current half-pack-a-day level, where the rate in the West (6.7%) is considerably lower than the rate in the Midwest (11.4%), while the South (10.2%) and Northeast (9.2%) are intermediate (Table 4-5).

Population Density Differences

Population density is measured by asking respondents to select the response category that best describes the size and nature of the community where they lived during March of the year in which they completed the follow-up questionnaire. The various categories are listed in Tables 4-2 through 4-5; the population sizes given to the respondent to help define each level are provided in a footnote to each table. An examination of the 1987 and 1988 drug use data for the two most urban strata revealed that the modest differences in prevalence rates between the suburbs and their corresponding cities were not worth the complexity of reporting them separately; accordingly, since then these categories have been merged to increase sample sizes. See Tables 4-2 through 4-5 for the tabular results on 19- to 30-year-olds combined.

- Differences in illicit drug use by population density tend to be very modest, perhaps more modest than is commonly supposed. Among the general population, use of most illicit drugs is broadly distributed among all areas from rural to urban. To the extent that there are variations, almost all of the associations are positive, with rural/country areas having

the lowest levels of use, and small towns having the next lowest. Medium-sized cities, large cities, and very large cities tend to be higher, with only small variations among them. Positive associations with population density exist for annual prevalence of ***any illicit drug***, ***marijuana***, and ***cocaine***. The association is strongest for cocaine, where the annual prevalence rate in the very large cities (6.7%) is more than two times that in farm/country (3.2%).

- In 2010, annual prevalence rates of ***methamphetamine*** use were highest in the farm/country stratum with practically no difference among the other strata (Table 4-3).

- ***Tranquilizer*** use has a weak positive association with population density in 2010.

- Among young adults, the lifetime and annual ***alcohol*** use measures all show a slight positive association with population density, while 30-day use has a somewhat stronger positive association, with 60% of the farm/country stratum reporting use in the prior 30 days versus 76% of those in very large cities. ***Occasions of heavy drinking*** are positively associated with population density as well (Table 4-5). ***Daily alcohol use*** falls between 4.2% and 5.7% for all community size strata, with little association with population density.

- Contrary to what we find for almost all other substances, there exists a negative association between population density and ***daily cigarette smoking***, which is highest in the farm/country stratum and lowest in the very large cities (daily prevalence rates of 22% and 10%, respectively). Smoking at the half-pack-a-day level is about three times as high in the farm/country stratum (16%) as in very large cities (5%) (Table 4-5).

TABLE 4-1
Prevalence of Use of Various Types of Drugs by Gender among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Males	Females	Total
Approximate Weighted N =	*2,400*	*3,400*	*5,800*
Any Illicit Drug[a]			
Annual	37.0	28.7	32.1
30-Day	22.9	14.9	18.2
Any Illicit Drug[a] other than Marijuana			
Annual	20.7	15.9	17.9
30-Day	9.6	7.3	8.2
Marijuana			
Annual	33.7	23.4	27.5
30-Day	20.3	11.9	15.3
Daily[b]	7.2	3.6	5.1
Inhalants[c]			
Annual	1.9	0.7	1.2
30-Day	0.3	0.1	0.2
Hallucinogens			
Annual	5.6	2.7	3.9
30-Day	1.3	0.7	0.9
LSD			
Annual	1.8	0.9	1.3
30-Day	0.4	0.3	0.3
Hallucinogens other than LSD			
Annual	4.9	2.5	3.4
30-Day	1.0	0.5	0.7
PCP[d]			
Annual	*	0.2	0.1
30-Day	*	*	*
Ecstasy (MDMA)[c]			
Annual	3.9	2.6	3.1
30-Day	0.9	0.7	0.8
Cocaine			
Annual	6.3	3.5	4.6
30-Day	2.1	0.9	1.4
Crack[e]			
Annual	0.7	0.4	0.5
30-Day	0.2	0.1	0.1
Other Cocaine[f]			
Annual	6.1	3.5	4.6
30-Day	2.1	1.0	1.4
Heroin			
Annual	0.6	0.3	0.4
30-Day	0.1	0.1	0.1
With a Needle[g]			
Annual	0.2	0.2	0.2
30-Day	0.1	*	*
Without a Needle[g]			
Annual	0.6	0.2	0.4
30-Day	0.1	*	0.1

(Table continued on next page.)

TABLE 4-1 (cont.)
Prevalence of Use of Various Types of Drugs by Gender among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Males	Females	Total
Approximate Weighted N =	*2,400*	*3,400*	*5,800*
Narcotics other than Heroin[h]			
Annual	10.0	7.8	8.7
30-Day	3.8	3.0	3.3
Amphetamines, Adjusted [h,i]			
Annual	7.7	5.6	6.5
30-Day	3.3	2.1	2.6
Methamphetamine[g]			
Annual	1.0	0.4	0.7
30-Day	0.4	0.2	0.2
Crystal Methamphetamine (Ice)[g]			
Annual	0.5	0.4	0.4
30-Day	0.2	0.2	0.2
Sedatives (Barbiturates)[h]			
Annual	3.3	3.0	3.1
30-Day	1.0	1.1	1.1
Tranquilizers[h]			
Annual	6.6	6.1	6.3
30-Day	2.0	2.3	2.2
Alcohol			
Annual	83.8	83.0	83.3
30-Day	73.0	65.5	68.5
Daily[b]	7.5	3.1	4.9
5+ Drinks in a Row in Last 2 Weeks	45.7	28.3	35.4
10+ Drinks in a Row in Last 2 Weeks[d]	25.2	7.2	14.7
15+ Drinks in a Row in Last 2 Weeks[d]	10.5	2.1	5.6
Been Drunk[c]			
Annual	66.4	62.4	64.0
30-Day	43.6	34.6	38.2
Daily[b]	0.9	0.5	0.6
Flavored Alcoholic Beverages[d]			
Annual	44.5	54.7	50.5
30-Day	21.6	24.1	23.1
Cigarettes			
Annual	37.0	29.5	32.5
30-Day	27.0	19.7	22.6
Daily	18.2	13.2	15.2
1/2 Pack+/Day	11.3	8.4	9.6
Smokeless Tobacco[d]			
Lifetime	47.4	16.9	29.7
30-Day	12.2	2.0	6.3
Daily	5.6	0.4	2.6
Steroids[g]			
Annual	1.6	0.1	0.7
30-Day	1.0	*	0.4

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

(Table continued on next page.)

TABLE 4-1 (cont.)
Prevalence of Use of Various Types of Drugs by Gender among Respondents of Modal Ages 19–30, 2010

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.
[b]Daily use is defined as use on 20 or more occasions in the past 30 days except for cigarettes, measured as actual daily use, and 5+ drinks, measured as having five or more drinks in a row in the last two weeks.
[c]This drug was asked about in three of the six questionnaire forms. Total *N* is approximately 2,900.
[d]This drug was asked about in one of the six questionnaire forms. Total *N* is approximately 1,000.
[e]This drug was asked about in five of the six questionnaire forms. Total *N* is approximately 4,800.
[f]This drug was asked about in four of the six questionnaire forms. Total *N* is approximately 3,900.
[g]This drug was asked about in two of the six questionnaire forms. Total *N* is approximately 1,900.
[h]Only drug use that was not under a doctor's orders is included here.
[i]Based on data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription amphetamines.

TABLE 4-2
Lifetime Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Approximate Weighted N	Any Illicit Drug[a]	Any Illicit Drug[a] other than Marijuana	Marijuana	Inhalants[b]	Hallucinogens	LSD	Hallucinogens other than LSD	PCP[c]	Ecstasy (MDMA)[b]	Cocaine	Crack[d]
Total	*5,800*	59.6	34.4	57.1	8.5	15.0	8.2	13.4	1.9	13.5	14.6	3.8
Gender:												
Male	*2,400*	61.9	37.6	59.6	10.8	18.9	10.2	17.6	1.8	14.5	17.9	4.5
Female	*3,400*	58.1	32.3	55.4	6.9	12.4	6.9	10.5	1.9	12.9	12.3	3.3
Modal Age:												
19–20	*1,000*	46.6	24.6	44.4	6.0	7.7	3.7	7.1	0.8	8.2	6.2	1.7
21–22	*1,000*	57.4	31.9	54.9	6.8	12.6	6.4	11.5	2.2	10.3	10.9	2.8
23–24	*1,000*	61.9	35.2	60.3	7.8	14.4	7.1	13.1	1.1	12.3	15.8	4.2
25–26	*1,000*	64.3	38.8	60.5	9.4	17.0	8.7	15.4	1.2	14.2	17.2	4.9
27–28	*900*	62.7	36.9	60.4	9.8	18.2	10.5	16.3	2.8	16.7	18.6	4.5
29–30	*900*	66.5	40.4	63.7	11.4	21.2	13.7	17.8	3.2	20.4	19.8	5.0
Region:												
Northeast	*1,100*	65.4	35.6	63.2	8.2	17.6	9.5	16.0	3.0	13.3	15.9	3.5
Midwest	*1,600*	59.5	33.3	57.4	8.8	14.2	7.5	12.7	0.9	11.4	13.4	4.0
South	*1,900*	55.2	33.7	51.6	8.7	13.2	7.9	11.4	2.6	13.5	13.0	3.6
West	*1,200*	62.6	36.8	61.1	8.4	17.2	8.9	15.7	1.1	16.7	17.9	4.1
Population Density:[e]												
Farm/Country	*600*	51.1	28.6	48.8	9.2	11.8	6.9	10.3	2.5	13.6	13.0	3.9
Small Town	*1,500*	57.1	32.5	55.8	8.0	14.2	8.3	12.6	1.5	11.4	13.9	3.9
Medium City	*1,400*	59.3	35.4	56.1	9.1	15.2	8.6	13.8	2.3	12.9	14.1	4.4
Large City	*1,400*	63.7	36.1	60.8	8.4	15.8	8.0	14.3	2.2	15.5	15.3	3.4
Very Large City	*900*	64.9	37.9	62.3	8.2	17.8	8.8	15.2	1.0	15.5	17.0	3.2

(Table continued on next page.)

TABLE 4-2 (cont.)
Lifetime Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Approximate Weighted N	Other Cocaine[f]	Heroin	Heroin with a Needle[g]	Heroin without a Needle[g]	Narcotics other than Heroin[h]	Amphetamines[h,i]	Methamphetamine[g]	Crystal Methamphetamine (Ice)[g]
Total	*5,800*	13.8	2.0	0.8	2.0	19.6	16.3	5.3	3.0
Gender:									
Male	*2,400*	16.7	2.9	1.1	3.2	22.3	19.0	6.4	3.2
Female	*3,400*	11.8	1.4	0.5	1.3	17.8	14.4	4.6	2.8
Modal Age:									
19–20	*1,000*	5.8	0.7	0.3	1.2	12.7	12.4	0.7	1.0
21–22	*1,000*	10.8	1.7	0.7	0.5	16.6	14.7	3.8	1.5
23–24	*1,000*	14.5	2.1	1.6	2.5	20.4	18.2	2.3	2.9
25–26	*1,000*	17.0	2.4	0.4	1.8	24.0	19.5	7.4	5.0
27–28	*900*	18.1	2.4	0.8	3.1	22.0	16.0	7.7	4.1
29–30	*900*	17.4	2.7	0.8	3.2	22.7	17.2	10.6	3.6
Region:									
Northeast	*1,100*	14.5	1.9	0.7	2.1	21.7	16.8	3.2	1.2
Midwest	*1,600*	12.8	1.7	0.4	1.4	18.7	16.1	5.2	2.4
South	*1,900*	12.6	2.2	0.7	2.3	18.0	16.9	5.1	2.6
West	*1,200*	16.7	2.2	1.3	2.6	22.4	15.1	7.8	6.1
Population Density:[e]									
Farm/Country	*600*	12.1	2.1	1.2	2.3	17.9	12.8	6.4	3.6
Small Town	*1,500*	13.3	1.8	0.8	1.9	19.0	14.8	4.7	2.6
Medium City	*1,400*	13.2	1.9	0.6	1.5	19.9	16.9	6.0	3.0
Large City	*1,400*	14.6	2.2	0.8	2.5	20.1	16.8	4.4	3.1
Very Large City	*900*	16.2	1.8	0.7	2.1	21.0	19.8	6.1	3.0

(Table continued on next page.)

TABLE 4-2 (cont.)
Lifetime Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Approximate Weighted N	Sedatives (Barbiturates)[h]	Tranquilizers[h]	Alcohol	Been Drunk[b]	Flavored Alcoholic Beverages[c]	Cigarettes	Steroids[g]
Total	*5,800*	9.0	15.3	88.5	80.3	82.4	—	1.7
Gender:								
Male	*2,400*	10.3	16.5	88.4	80.4	76.9	—	3.8
Female	*3,400*	8.2	14.5	88.6	80.2	86.3	—	0.3
Modal Age:								
19–20	*1,000*	5.6	9.0	74.9	61.3	71.2	—	0.9
21–22	*1,000*	8.6	12.0	86.8	75.7	79.4	—	2.7
23–24	*1,000*	8.7	15.5	92.8	84.8	87.1	—	1.0
25–26	*1,000*	9.9	18.9	91.6	85.8	86.4	—	2.3
27–28	*900*	10.5	16.8	92.2	88.2	83.0	—	1.7
29–30	*900*	11.5	20.4	93.9	86.9	88.1	—	1.6
Region:								
Northeast	*1,100*	8.6	15.7	92.5	86.8	84.9	—	1.6
Midwest	*1,600*	7.5	12.6	90.8	83.1	86.5	—	0.9
South	*1,900*	10.8	17.8	86.8	76.5	81.6	—	1.9
West	*1,200*	8.9	14.8	85.0	76.6	76.9	—	2.1
Population Density:[e]								
Farm/Country	*600*	7.3	14.2	86.6	77.4	79.3	—	0.9
Small Town	*1,500*	8.8	15.0	88.7	79.7	85.0	—	1.7
Medium City	*1,400*	9.0	15.5	87.6	79.3	77.6	—	1.0
Large City	*1,400*	10.2	15.8	88.9	81.8	85.8	—	2.1
Very Large City	*900*	9.0	16.2	90.8	82.1	83.1	—	1.9

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' — ' indicates data not available.

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.

[b]This drug was asked about in three of the six questionnaire forms. Total *N* is approximately 2,900.

[c]This drug was asked about in one of the six questionnaire forms. Total *N* is approximately 1,000.

[d]This drug was asked about in five of the six questionnaire forms. Total *N* is approximately 4,800.

[e]A small town is defined as having fewer than 50,000 inhabitants; a medium city as 50,000–100,000; a large city as 100,000–500,000; and a very large city as having over 500,000. Within each level of population density, suburban and urban respondents are combined.

[f]This drug was asked about in four of the six questionnaire forms. Total *N* is approximately 3,900.

[g]This drug was asked about in two of the six questionnaire forms. Total *N* is approximately 1,900.

[h]Only drug use that was not under a doctor's orders is included here.

[i]Based on data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription amphetamines.

TABLE 4-3
Annual Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Approximate Weighted N	Any Illicit Drug[a]	Any Illicit Drug[a] other than Marijuana	Marijuana	Inhalants[b]	Hallucinogens	LSD	Hallucinogens other than LSD	PCP[c]	Ecstasy (MDMA)[b]	Salvia[c]	Cocaine	Crack[d]
Total	*5,800*	32.1	17.9	27.5	1.2	3.9	1.3	3.4	0.1	3.1	3.0	4.6	0.5
Gender:													
Male	*2,400*	37.0	20.7	33.7	1.9	5.6	1.8	4.9	*	3.9	5.1	6.3	0.7
Female	*3,400*	28.7	15.9	23.4	0.7	2.7	0.9	2.5	0.2	2.6	1.5	3.5	0.4
Modal Age:													
19–20	*1,000*	32.5	17.2	30.6	1.9	5.3	2.4	4.9	0.6	5.0	3.2	3.4	0.8
21–22	*1,000*	38.1	20.0	34.0	2.1	5.1	1.5	4.6	0.3	4.8	5.4	4.9	0.3
23–24	*1,000*	36.3	20.1	30.5	1.1	4.7	1.7	3.9	*	4.4	3.1	5.9	0.6
25–26	*1,000*	31.6	19.5	25.5	0.6	3.5	1.1	3.0	*	1.6	4.2	4.8	0.5
27–28	*900*	27.1	15.8	22.3	0.5	2.3	0.6	2.1	*	1.8	0.9	4.7	0.4
29–30	*900*	26.2	14.5	21.5	0.7	2.1	0.2	2.0	*	1.0	0.5	4.0	0.6
Region:													
Northeast	*1,200*	37.1	19.7	32.9	1.7	4.6	1.8	4.0	*	2.5	2.6	6.6	0.6
Midwest	*1,600*	30.5	16.6	26.1	1.1	3.9	1.2	3.5	*	1.8	3.2	3.2	0.4
South	*1,900*	29.0	17.5	23.5	1.0	2.9	1.1	2.3	0.5	3.4	2.6	3.9	0.6
West	*1,200*	35.2	18.8	31.8	1.1	4.9	1.3	4.7	*	5.2	3.7	5.9	0.6
Population Density:[e]													
Farm/Country	*700*	23.1	14.3	18.3	0.9	2.5	0.5	2.3	*	2.7	2.4	3.2	0.2
Small Town	*1,500*	30.1	16.7	26.1	1.5	3.9	1.5	3.4	*	2.9	3.5	4.5	0.6
Medium City	*1,400*	34.3	19.0	29.6	0.9	4.2	1.6	3.5	0.2	3.7	2.2	3.9	0.9
Large City	*1,300*	33.9	18.4	29.0	0.9	3.6	1.1	3.3	*	2.7	3.8	4.9	0.4
Very Large City	*800*	36.2	20.3	32.0	1.7	5.0	1.1	4.7	0.7	3.6	2.7	6.7	0.3

(Table continued on next page.)

TABLE 4-3 (cont.)
Annual Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Approximate Weighted N	Other Cocaine[f]	Heroin	Heroin with a Needle[g]	Heroin without a Needle[g]	Narcotics other than Heroin[h]	OxyContin[g,h]	Vicodin[g,h]	Amphetamines[h,i]	Ritalin[g,h]	Adderall[g,h]	Provigil[g,h]	Methamphetamine[g]
Total	*5,800*	4.6	0.4	0.2	0.4	8.7	3.2	8.1	6.5	1.6	6.4	0.5	0.7
Gender:													
Male	*2,400*	6.1	0.6	0.2	0.6	10.0	4.1	9.1	7.7	2.0	7.9	0.8	1.0
Female	*3,400*	3.5	0.3	0.2	0.2	7.8	2.6	7.5	5.6	1.3	5.4	0.4	0.4
Modal Age:													
19–20	*1,000*	3.0	0.4	*	0.5	8.1	3.0	5.1	8.3	1.9	7.9	0.6	0.3
21–22	*1,000*	5.4	0.3	0.1	0.1	9.2	3.0	8.5	9.0	2.2	9.3	0.9	1.1
23–24	*1,000*	6.2	0.8	0.8	0.5	10.0	5.0	11.1	7.7	1.4	7.1	0.4	0.3
25–26	*1,000*	5.1	0.6	*	0.5	10.1	3.2	8.7	5.9	1.7	7.0	0.1	1.4
27–28	*900*	4.0	0.3	0.3	0.3	7.8	2.0	6.0	4.3	1.0	3.7	0.4	0.3
29–30	*900*	3.5	0.2	*	0.1	6.9	3.1	9.7	3.2	1.3	3.0	0.8	0.6
Region:													
Northeast	*1,100*	6.7	0.5	0.1	0.4	10.5	3.5	8.9	6.9	1.0	7.1	0.3	0.4
Midwest	*1,600*	3.0	0.4	0.1	0.2	7.8	2.6	7.4	6.8	1.8	6.0	0.5	0.5
South	*1,900*	3.9	0.4	0.3	0.3	7.6	2.7	7.0	6.7	1.7	7.2	0.7	0.6
West	*1,200*	5.9	0.6	0.3	0.6	10.3	4.6	10.3	5.3	1.6	4.8	0.4	1.1
Population Density:[e]													
Farm/Country	*600*	2.9	0.5	0.6	0.4	7.7	3.7	8.5	4.2	1.9	4.7	1.2	1.3
Small Town	*1,500*	4.1	0.5	0.3	0.5	8.6	4.1	6.5	6.4	1.7	7.3	0.5	0.5
Medium City	*1,400*	3.8	0.4	0.1	0.4	9.6	3.2	7.3	7.2	1.9	5.7	0.3	0.6
Large City	*1,400*	5.1	0.5	0.2	0.3	7.9	2.4	10.2	6.3	1.2	6.5	0.6	0.5
Very Large City	*900*	7.3	0.3	*	*	9.5	2.5	9.0	7.4	1.1	6.5	0.2	0.5

(Table continued on next page.)

TABLE 4-3 (cont.)
Annual Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Approximate Weighted N	Crystal Methamphetamine (Ice)[g]	Sedatives (Barbiturates)[h]	Tranquilizers[h]	GHB[g]	Ketamine[g]	Alcohol	Been Drunk[b]	Flavored Alcoholic Beverages[c]	Cigarettes	Steroids[g]
Total	*5,800*	0.4	3.1	6.3	0.3	0.7	83.3	64.0	50.5	32.5	0.7
Gender:											
Male	*2,400*	0.5	3.3	6.6	0.5	0.9	83.8	66.4	44.5	37.0	1.6
Female	*3,400*	0.4	3.0	6.1	0.2	0.5	83.0	62.4	54.7	29.5	0.1
Modal Age:											
19–20	*1,000*	0.7	3.0	5.2	0.7	1.6	68.8	53.3	56.0	29.8	0.4
21–22	*1,000*	0.5	3.8	6.6	0.6	0.9	83.4	66.0	60.2	35.4	1.9
23–24	*1,000*	0.3	3.5	7.2	0.1	0.6	89.2	70.6	54.9	33.7	0.3
25–26	*1,000*	0.7	2.6	7.2	*	0.3	86.7	66.6	49.3	34.6	0.6
27–28	*900*	*	3.5	5.2	0.3	0.6	86.6	68.0	40.6	31.4	0.7
29–30	*900*	0.1	2.5	6.4	0.3	0.1	86.7	59.6	41.9	29.9	*
Region:											
Northeast	*1,100*	0.1	2.9	6.5	*	0.8	89.1	70.5	46.4	34.0	0.3
Midwest	*1,600*	0.3	2.7	5.3	0.3	0.4	86.6	68.6	60.5	35.0	0.4
South	*1,900*	0.5	3.7	7.3	0.6	0.5	79.8	55.8	51.7	31.5	0.6
West	*1,200*	0.7	3.1	6.0	0.1	1.1	80.2	65.1	41.3	29.6	1.3
Population Density:[e]											
Farm/Country	*600*	0.5	2.3	6.0	0.5	1.2	79.5	57.7	50.8	37.0	*
Small Town	*1,500*	0.4	3.1	6.4	0.1	0.4	82.8	64.1	53.6	33.7	1.2
Medium City	*1,400*	0.3	3.2	6.7	0.2	0.5	83.0	63.1	45.4	31.2	0.6
Large City	*1,400*	0.7	3.1	5.7	0.4	0.8	84.5	65.0	52.9	31.1	0.5
Very Large City	*900*	*	3.7	7.0	0.5	0.7	86.9	68.9	50.8	31.0	0.7

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.

[b]This drug was asked about in three of the six questionnaire forms. Total *N* is approximately 2,900.

[c]This drug was asked about in one of the six questionnaire forms. Total *N* is approximately 1,000.

[d]This drug was asked about in five of the six questionnaire forms. Total *N* is approximately 4,800.

[e]A small town is defined as having fewer than 50,000 inhabitants; a medium city as 50,000–100,000; a large city as 100,000–500,000; and a very large city as having over 500,000. Within each level of population density, suburban and urban respondents are combined.

[f]This drug was asked about in four of the six questionnaire forms. Total *N* is approximately 3,900.

[g]This drug was asked about in two of the six questionnaire forms. Total *N* is approximately 1,900.

[h]Only drug use that was not under a doctor's orders is included here.

[i]Based on data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription amphetamines.

TABLE 4-4
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Approximate Weighted N	Any Illicit Drug[a]	Any Illicit Drug[a] other than Marijuana	Marijuana	Inhalants[b]	Hallucinogens	LSD	Hallucinogens other than LSD	PCP[c]	Ecstasy (MDMA)[b]	Cocaine	Crack[d]
Total	*5,800*	18.2	8.2	15.3	0.2	0.9	0.3	0.7	*	0.8	1.4	0.1
Gender:												
Male	*2,400*	22.9	9.6	20.3	0.3	1.3	0.4	1.0	*	0.9	2.1	0.2
Female	*3,400*	14.9	7.3	11.9	0.1	0.7	0.3	0.5	*	0.7	0.9	0.1
Modal Age:												
19–20	*1,000*	19.5	7.9	18.0	0.4	1.3	0.7	0.9	*	1.4	0.6	0.2
21–22	*1,000*	21.0	9.7	18.0	0.4	1.2	0.3	1.2	*	1.0	1.6	0.1
23–24	*1,000*	20.6	10.0	17.3	*	1.3	0.5	1.1	*	1.2	2.1	0.2
25–26	*1,000*	17.3	8.2	13.6	*	0.8	0.3	0.6	*	0.4	1.4	0.1
27–28	*900*	15.9	7.0	13.5	*	0.3	*	0.3	*	0.1	1.2	*
29–30	*900*	14.3	6.4	11.0	0.3	0.5	0.2	0.3	*	0.5	1.6	0.1
Region:												
Northeast	*1,100*	21.7	8.7	19.3	0.2	1.0	0.4	0.7	*	0.2	2.0	0.2
Midwest	*1,600*	17.0	7.5	14.4	0.1	0.6	0.2	0.5	*	0.2	0.7	0.1
South	*1,900*	15.5	8.1	11.9	0.3	0.9	0.3	0.7	*	1.0	1.2	0.0
West	*1,200*	21.1	9.1	18.8	*	1.4	0.7	1.2	*	1.7	2.3	0.2
Population Density:[e]												
Farm/Country	*600*	13.6	6.2	11.0	0.1	0.4	*	0.4	*	0.5	0.9	*
Small Town	*1,500*	17.6	8.0	15.1	0.2	0.9	0.3	0.8	*	0.6	1.1	0.1
Medium City	*1,400*	19.7	8.8	17.0	0.1	0.8	0.4	0.5	*	0.9	1.2	0.3
Large City	*1,400*	18.1	7.4	15.6	0.3	1.1	0.4	0.8	*	0.8	1.4	0.1
Very Large City	*900*	20.2	10.3	16.2	*	1.3	0.3	1.1	*	1.0	2.7	*

(Table continued on next page.)

TABLE 4-4 (cont.)
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Approximate Weighted N	Other Cocaine[f]	Heroin	Heroin With Needle[g]	Heroin Without Needle[g]	Narcotics other than Heroin[h]	Amphetamines[h,i]	Methamphetamine[g]	Crystal Methamphetamine (Ice)[g]
Total	*5,800*	1.4	0.1	*	0.1	3.3	2.6	0.2	0.2
Gender:									
Male	*2,400*	2.1	0.1	0.1	0.1	3.8	3.3	0.4	0.2
Female	*3,400*	1.0	0.1	*	*	3.0	2.1	0.2	0.2
Modal Age:									
19–20	*1,000*	0.4	0.1	*	*	3.2	3.8	*	0.3
21–22	*1,000*	2.0	*	0.1	*	3.6	3.8	0.4	0.2
23–24	*1,000*	2.4	0.2	0.1	0.1	3.5	3.3	0.1	0.2
25–26	*1,000*	1.5	0.1	*	*	3.4	1.8	0.4	0.3
27–28	*900*	1.0	0.1	*	0.3	3.3	1.6	0.3	*
29–30	*900*	1.4	*	*	*	2.9	1.2	0.2	0.1
Region:									
Northeast	*1,100*	1.9	0.1	*	*	3.7	3.2	*	*
Midwest	*1,600*	0.6	0.1	*	*	3.4	3.0	0.2	0.2
South	*1,900*	1.2	*	0.1	*	2.6	2.4	0.3	0.1
West	*1,200*	2.6	0.3	0.1	0.3	4.2	1.9	0.3	0.5
Population Density:[e]									
Farm/Country	*600*	0.8	0.1	*	0.2	3.1	1.2	0.6	0.2
Small Town	*1,500*	1.0	0.1	0.1	*	3.8	2.5	0.4	0.3
Medium City	*1,400*	1.1	0.1	*	0.2	3.5	3.1	*	0.2
Large City	*1,400*	1.7	0.1	0.1	*	2.8	2.6	0.1	0.2
Very Large City	*900*	3.0	0.1	*	*	3.6	2.8	*	*

(Table continued on next page.)

TABLE 4-4 (cont.)
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Approximate Weighted N	Sedatives (Barbiturates)[h]	Tranquilizers[h]	Alcohol	Been Drunk[b]	Flavored Alcoholic Beverages[c]	Cigarettes	Steroids[g]
Total	*5,800*	1.1	2.2	68.5	38.2	23.1	22.6	0.4
Gender:								
Male	*2,400*	1.0	2.0	73.0	43.6	21.6	27.0	1.0
Female	*3,400*	1.1	2.3	65.5	34.6	24.1	19.7	*
Modal Age:								
19–20	*1,000*	0.7	1.5	51.2	31.4	28.5	19.6	0.4
21–22	*1,000*	1.1	1.8	71.6	45.2	30.9	22.8	1.0
23–24	*1,000*	1.2	2.8	74.6	43.3	25.8	23.0	0.3
25–26	*1,000*	1.1	2.7	73.6	38.8	23.0	24.3	0.3
27–28	*900*	1.2	2.6	72.2	38.3	14.9	22.5	0.3
29–30	*900*	1.0	1.8	69.1	31.6	15.2	23.9	*
Region:								
Northeast	*1,100*	0.9	2.1	75.7	43.7	23.8	24.5	0.3
Midwest	*1,600*	1.0	2.1	71.9	43.2	26.9	25.0	0.2
South	*1,900*	1.3	2.7	63.2	32.7	23.8	22.0	0.2
West	*1,200*	0.8	1.5	66.4	35.6	17.2	18.8	0.8
Population Density:[e]								
Farm/Country	*600*	0.6	1.7	60.0	30.3	23.6	27.6	*
Small Town	*1,500*	1.3	2.2	66.7	35.9	25.7	24.8	0.8
Medium City	*1,400*	1.2	2.4	67.8	38.7	20.1	21.2	0.4
Large City	*1,400*	1.0	2.1	71.4	40.6	25.5	21.5	0.2
Very Large City	*900*	0.8	2.3	76.0	44.6	19.2	19.3	0.3

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.

[b]This drug was asked about in three of the six questionnaire forms. Total *N* is approximately 2,900.

[c]This drug was asked about in one of the six questionnaire forms. Total *N* is approximately 1,000.

[d]This drug was asked about in five of the six questionnaire forms. Total *N* is approximately 4,800.

[e]A small town is defined as having fewer than 50,000 inhabitants; a medium city as 50,000–100,000; a large city as 100,000–500,000; and a very large city as having over 500,000. Within each level of population density, suburban and urban respondents are combined.

[f]This drug was asked about in four of the six questionnaire forms. Total *N* is approximately 3,900.

[g]This drug was asked about in two of the six questionnaire forms. Total *N* is approximately 1,900.

[h]Only drug use that was not under a doctor's orders is included here.

[i]Based on data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription amphetamines.

TABLE 4-5

Thirty-Day Prevalence of Daily Use[a] of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2010

(Entries are percentages.)

	Approximate Weighted N	Marijuana Daily	Alcohol Daily	Alcohol: 5+ Drinks in a Row in Last 2 Weeks	Cigarettes Daily	Cigarettes: 1/2 Pack+ per Day
Total	*5,800*	5.1	4.9	35.4	15.2	9.6
Gender:						
Male	*2,400*	7.2	7.5	45.7	18.2	11.3
Female	*3,400*	3.6	3.1	28.3	13.2	8.4
Modal Age:						
19–20	*1,000*	6.0	1.8	28.2	11.1	6.7
21–22	*1,000*	5.1	5.4	39.3	15.5	9.3
23–24	*1,000*	5.8	4.9	40.1	15.3	9.6
25–26	*1,000*	4.0	5.6	36.6	16.2	11.3
27–28	*900*	5.3	5.7	35.6	16.2	10.1
29–30	*900*	4.0	6.1	32.6	17.3	10.7
Region:						
Northeast	*1,100*	5.9	5.5	40.8	16.4	9.2
Midwest	*1,600*	5.0	5.1	40.8	17.2	11.4
South	*1,900*	4.4	4.2	29.4	16.0	10.2
West	*1,200*	5.8	4.9	33.2	10.7	6.7
Population Density:[b]						
Farm/Country	*600*	3.6	5.4	27.4	22.3	15.5
Small Town	*1,500*	5.3	4.2	33.9	17.2	12.1
Medium City	*1,400*	5.6	4.7	35.9	14.9	9.1
Large City	*1,400*	5.0	5.0	36.5	13.2	7.0
Very Large City	*900*	5.1	5.7	41.1	10.1	5.2

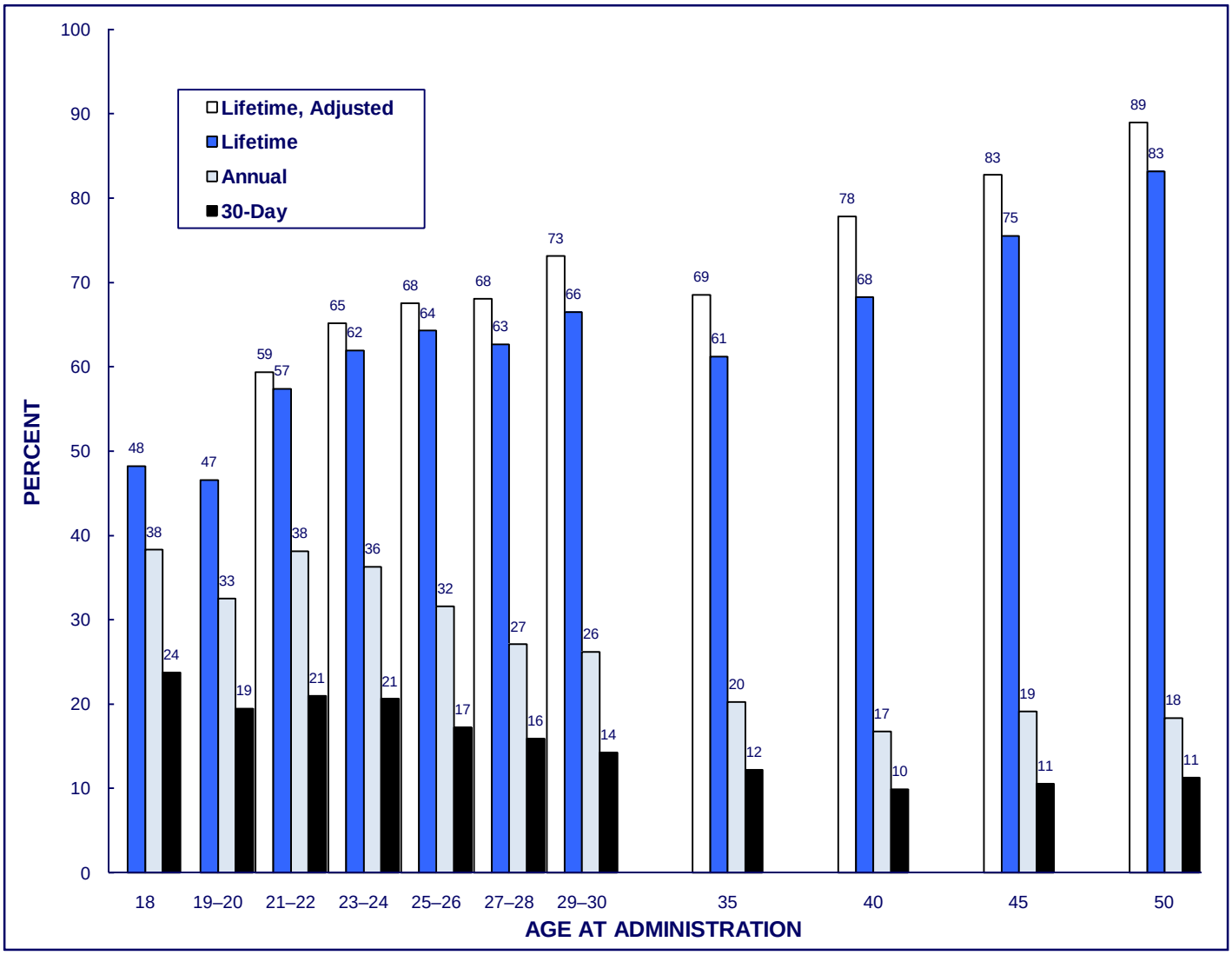
Source. The Monitoring the Future study, the University of Michigan.

[a]Daily use is defined as use on 20 or more occasions in the past 30 days except for cigarettes, measured as actual daily use, and 5+ drinks, measured as having five or more drinks in a row in the last two weeks.

[b]A small town is defined as having fewer than 50,000 inhabitants; a medium city as 50,000–100,000; a large city as 100,000–500,000; and a very large city as having over 500,000. Within each level of population density, suburban and urban respondents are combined.

FIGURE 4-1

Any Illicit Drug: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

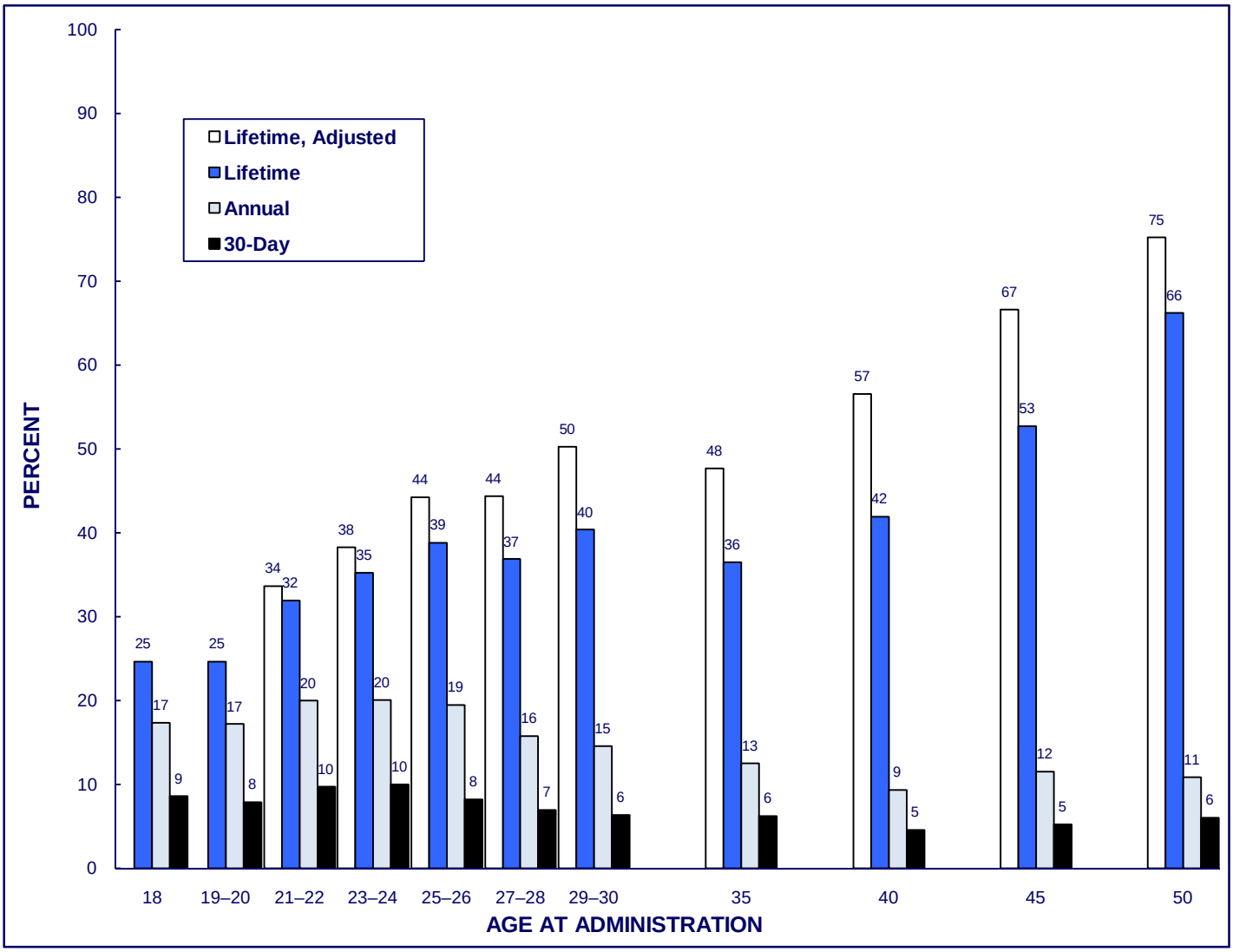


Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-2

Any Illicit Drug other than Marijuana: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

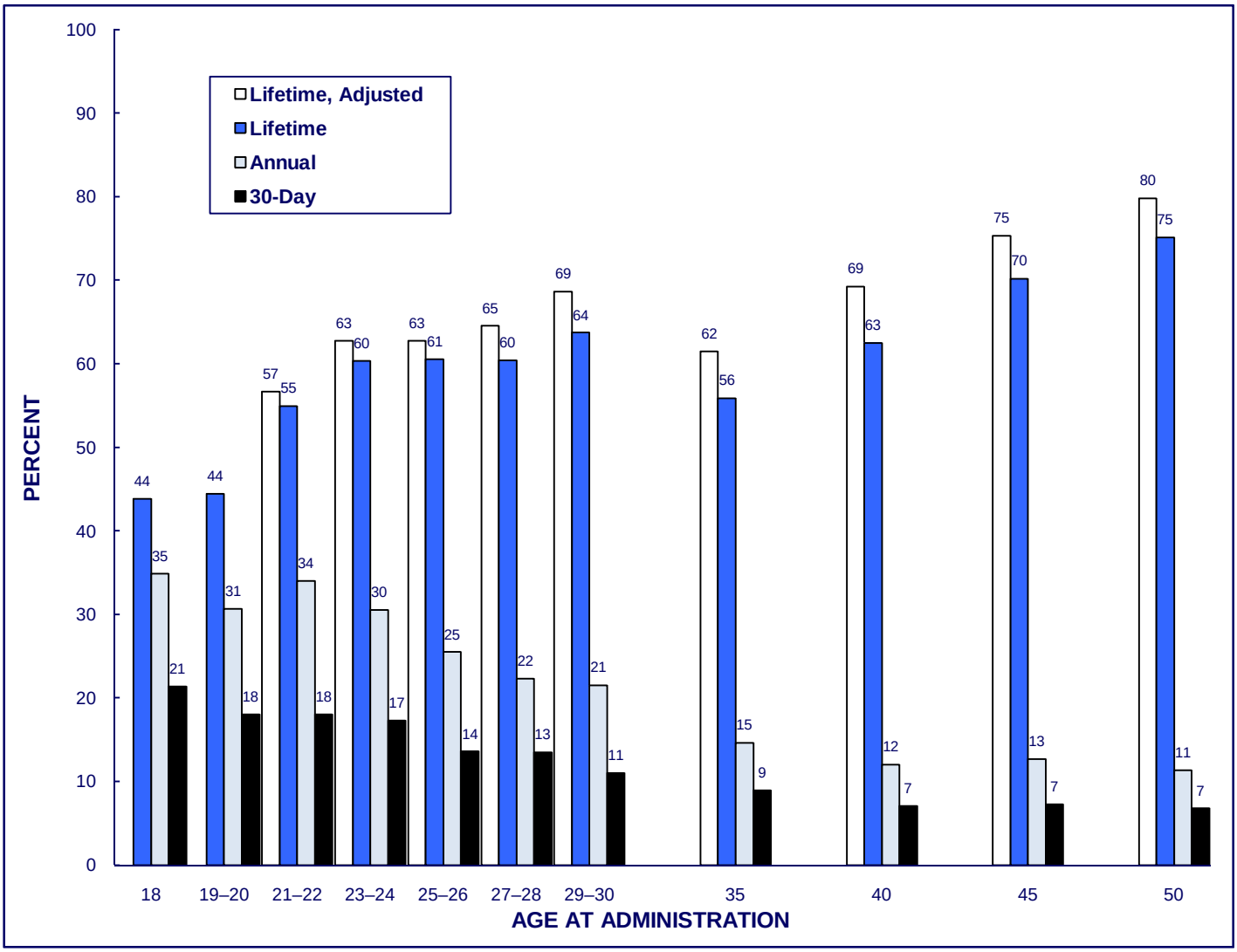


Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-3

Marijuana: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

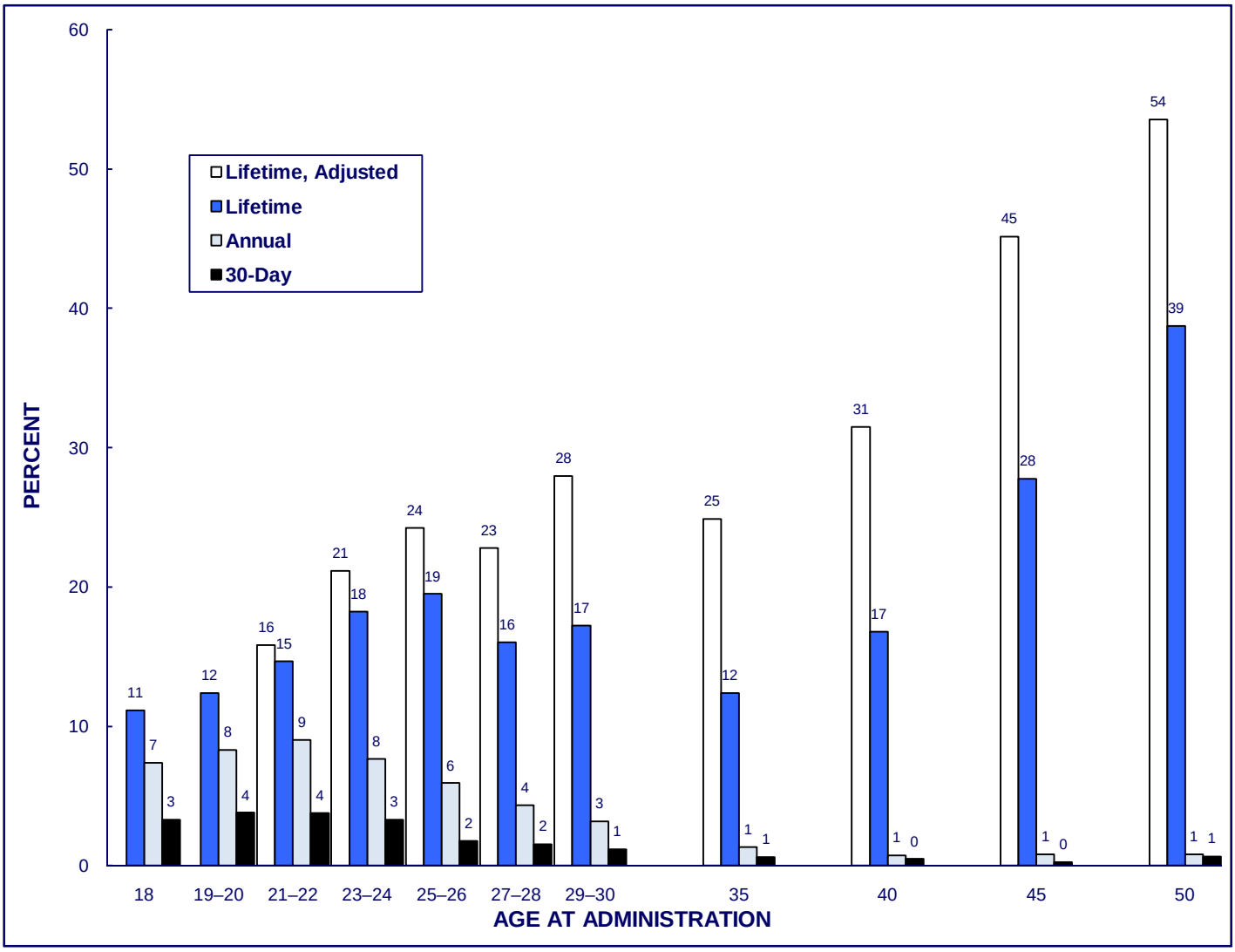


Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-4

Amphetamines: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

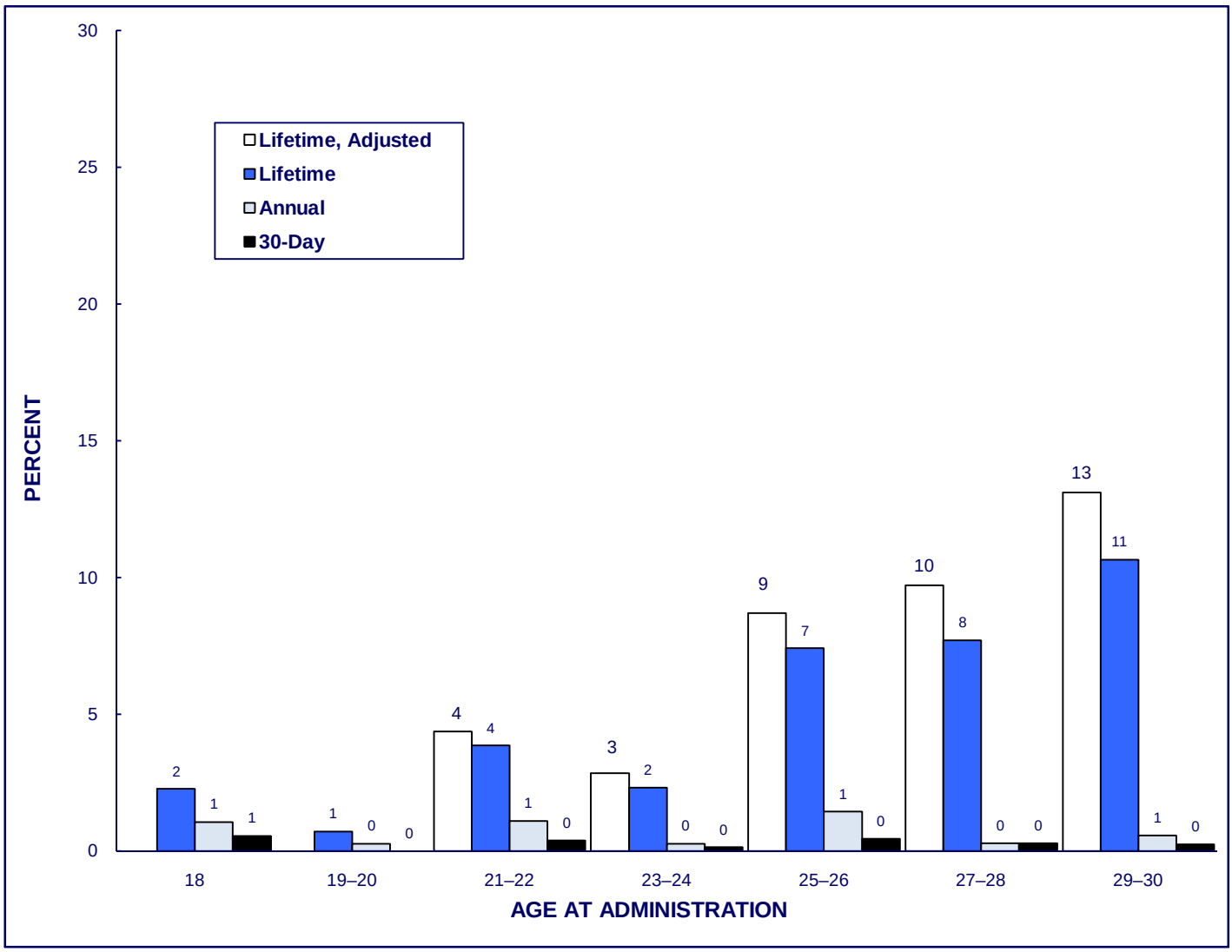


Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-5

Methamphetamine: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30[a] by Age Group, 2010



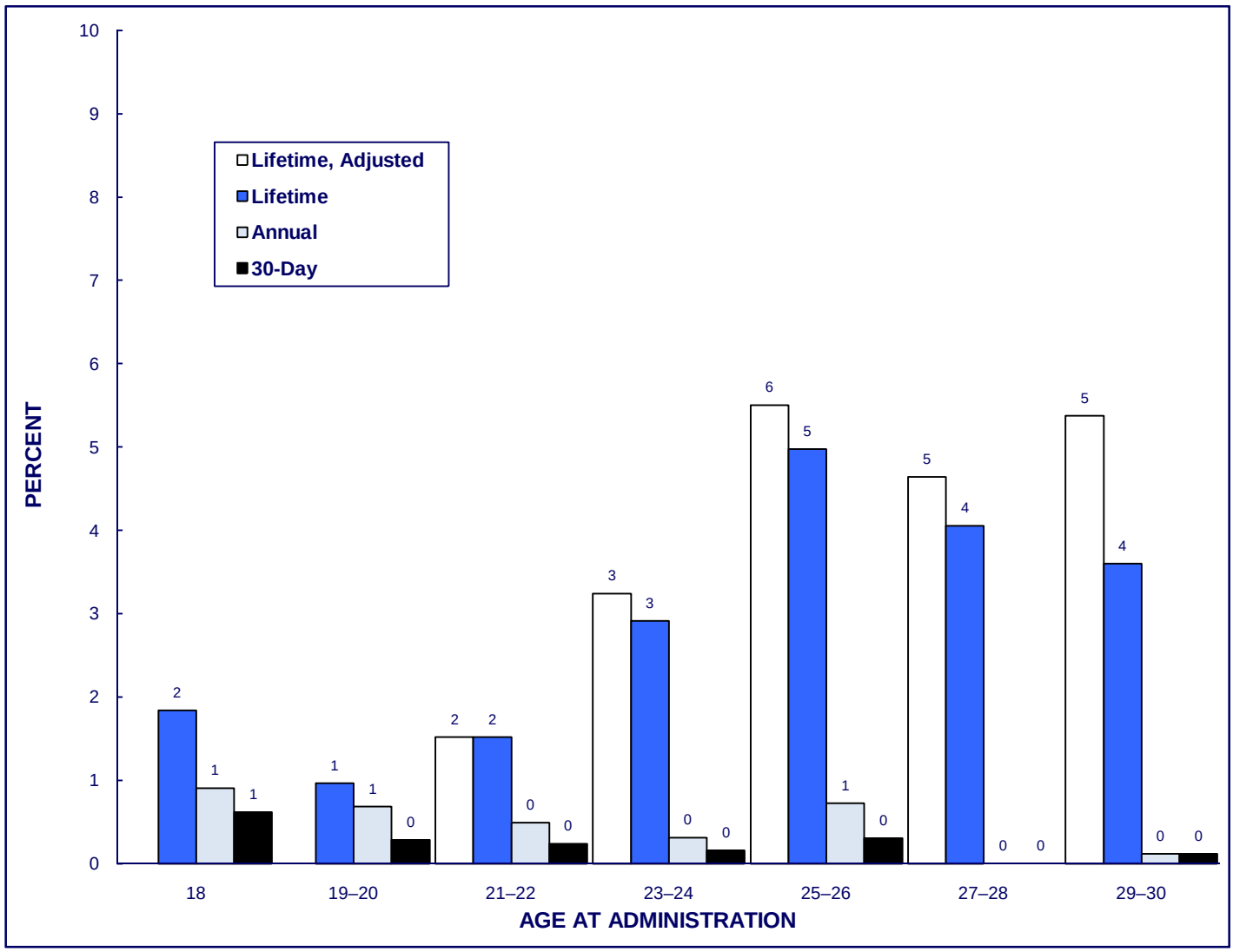
Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

[a]Questions about the use of methamphetamines were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-6

Crystal Methamphetamine (Ice): Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30[a] by Age Group, 2010



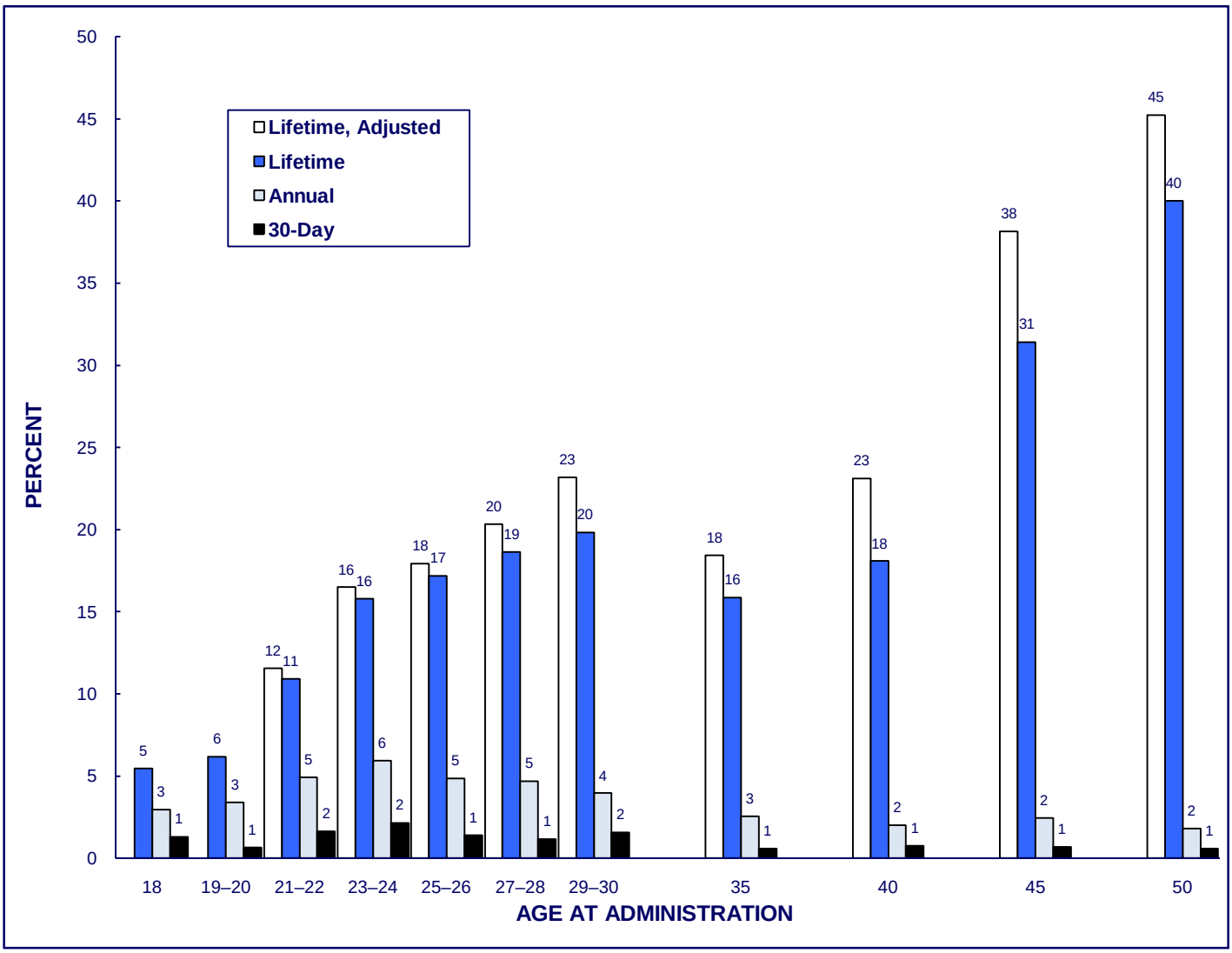
Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

[a]Questions about the use of crystal methamphetamine were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-7

Cocaine: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

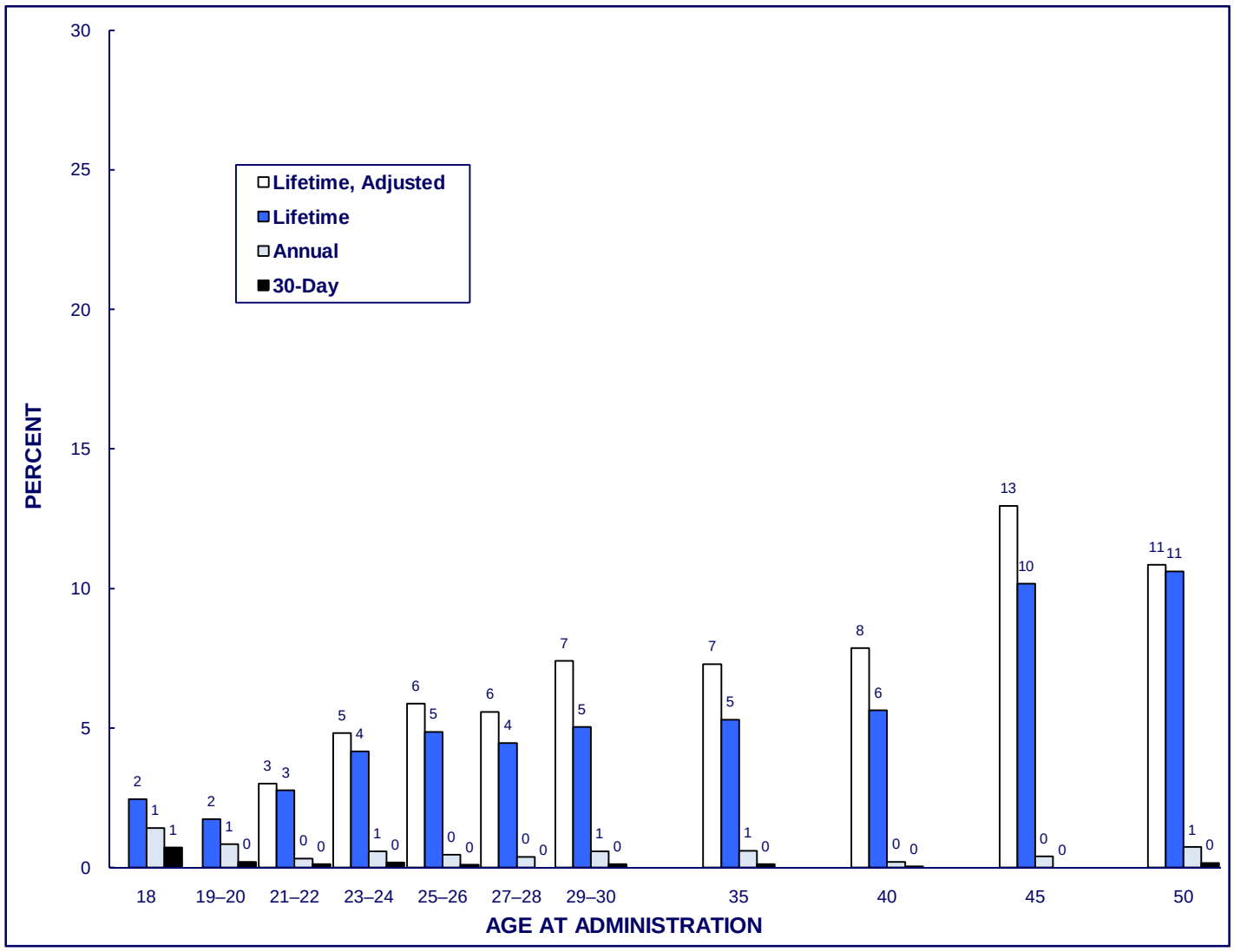


Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-8

Crack Cocaine: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

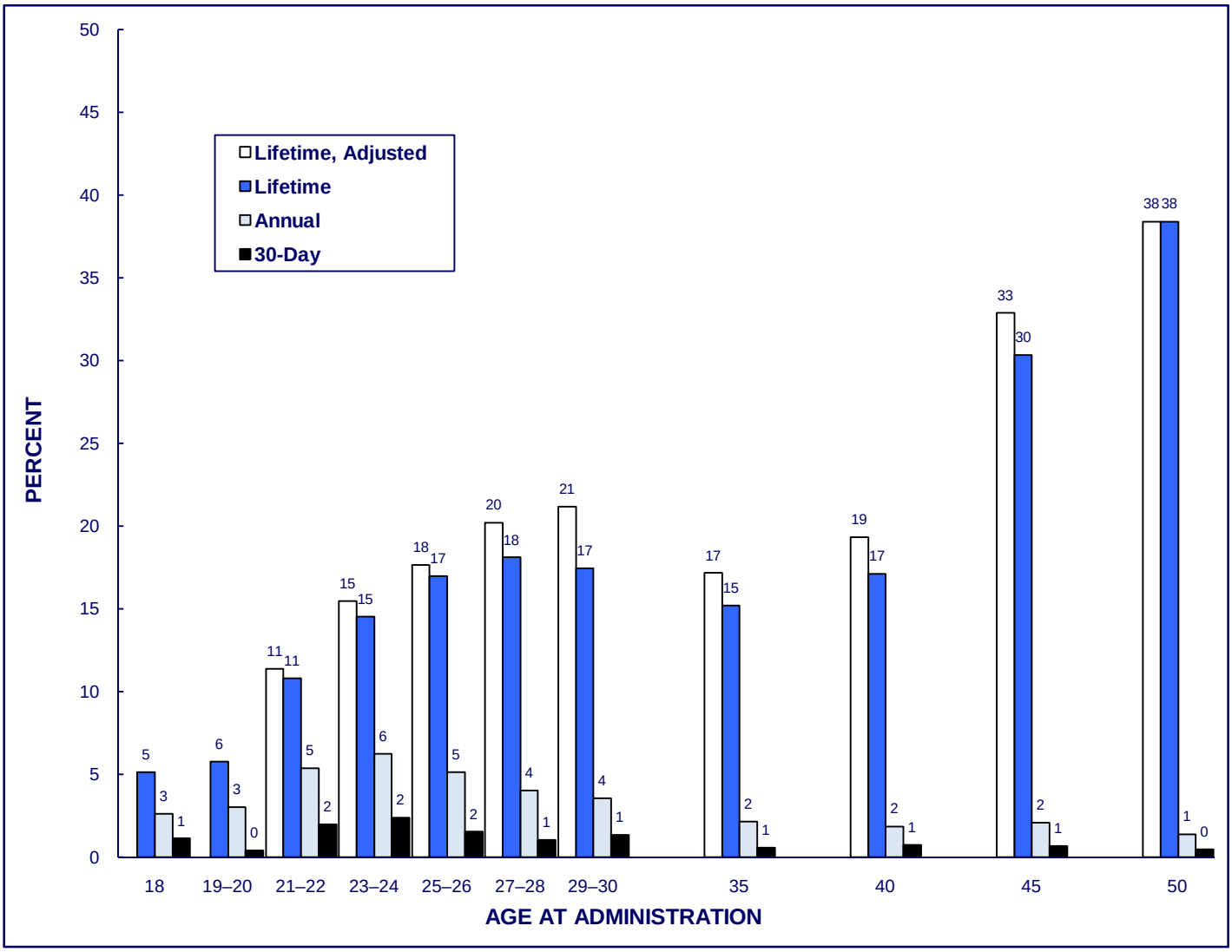


Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-9

Other Cocaine: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

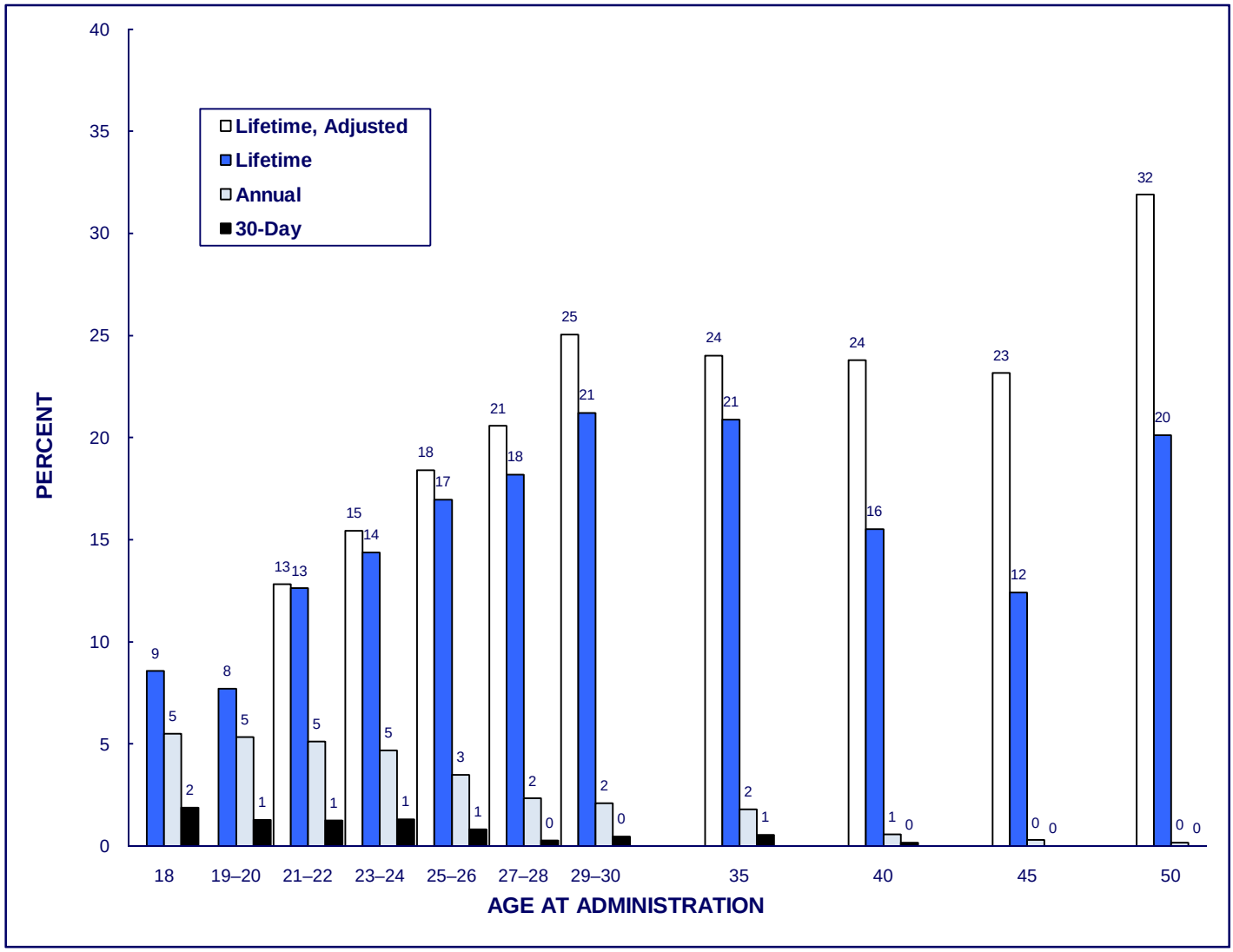


Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-10

Hallucinogens:[a] Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010



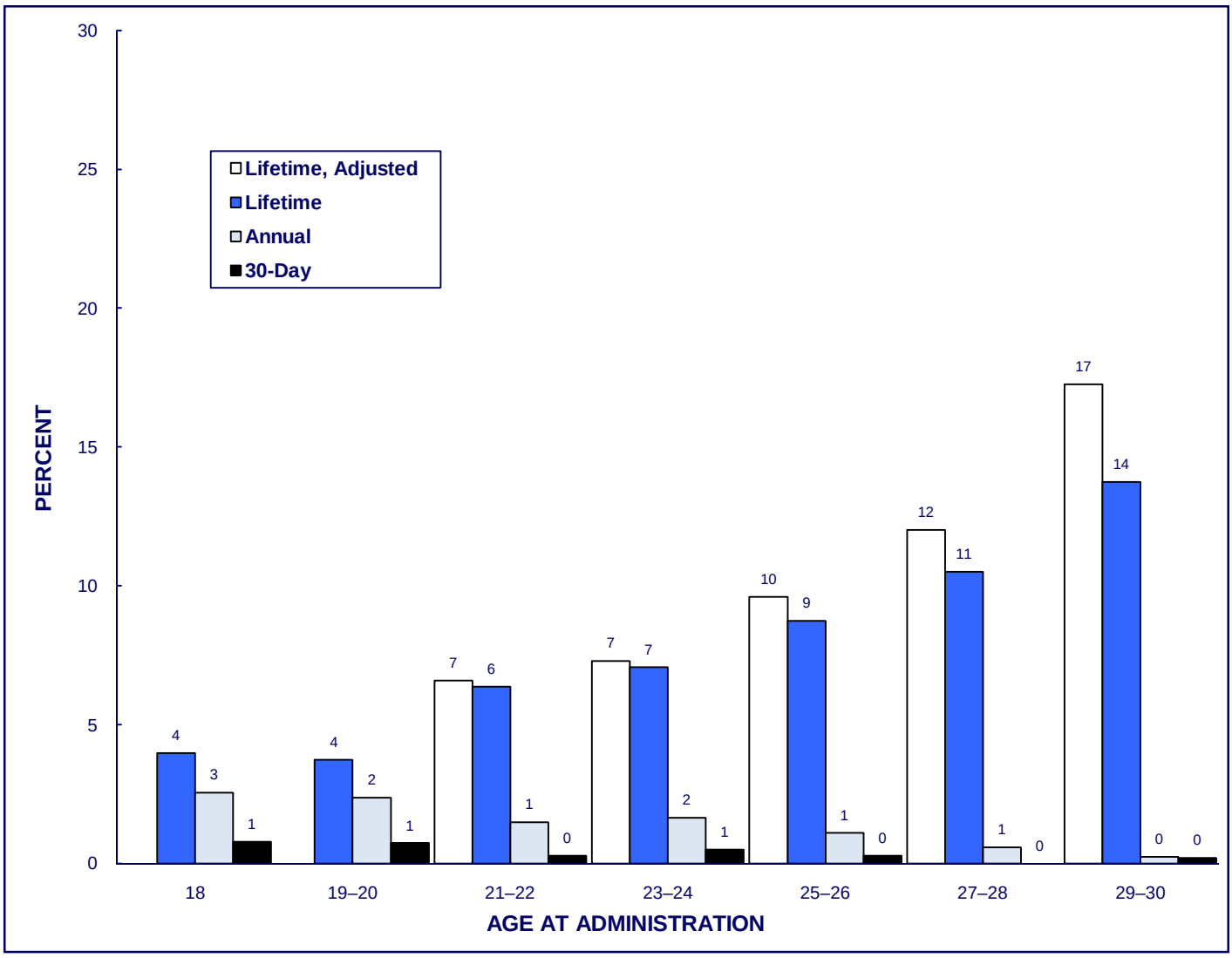
Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

[a]Unadjusted for the possible underreporting of PCP.

FIGURE 4-11

LSD: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30[a] by Age Group, 2010



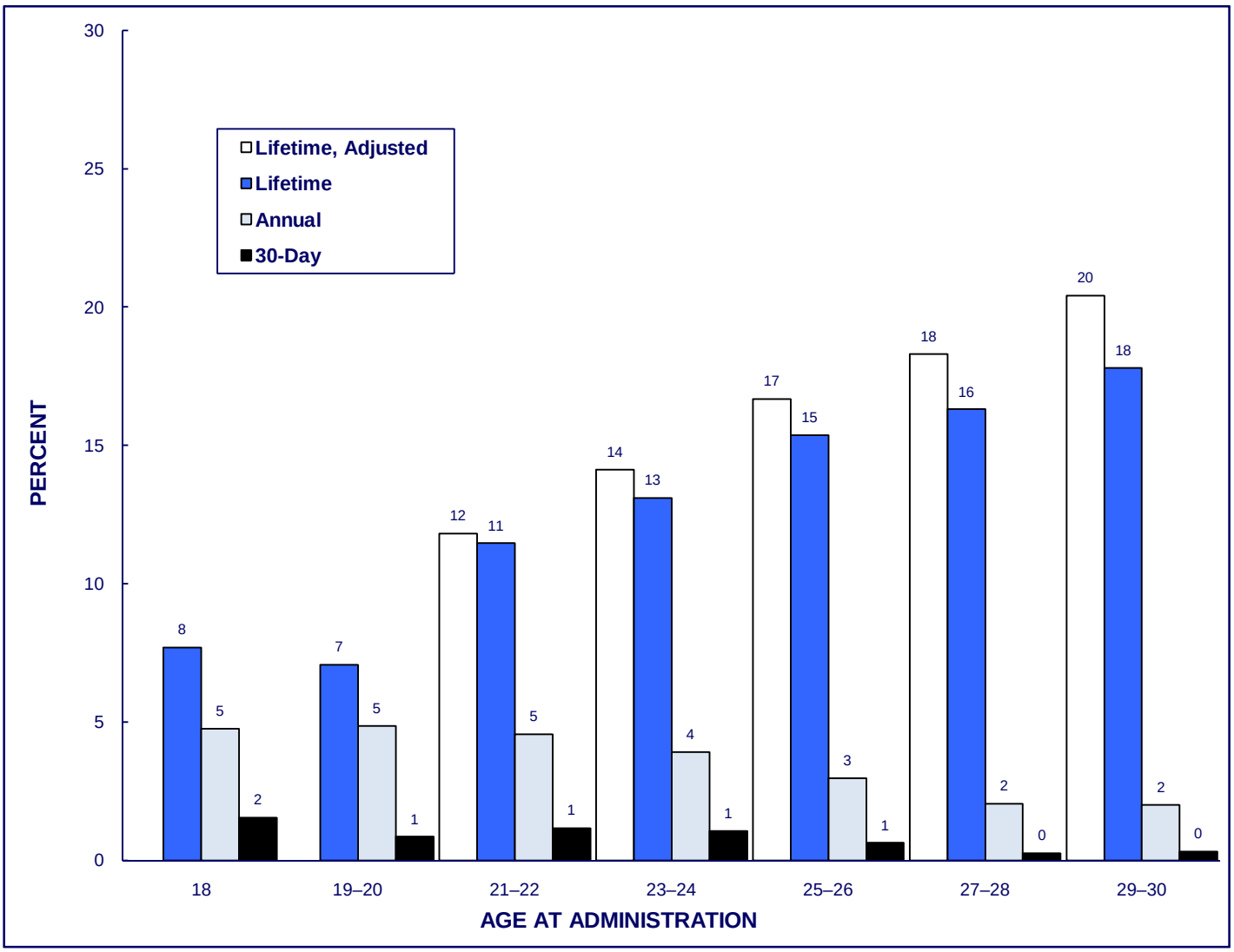
Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

[a]Questions about the use of LSD were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-12

Hallucinogens other than LSD:[a] Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30[b] by Age Group, 2010



Source. The Monitoring the Future study, the University of Michigan.

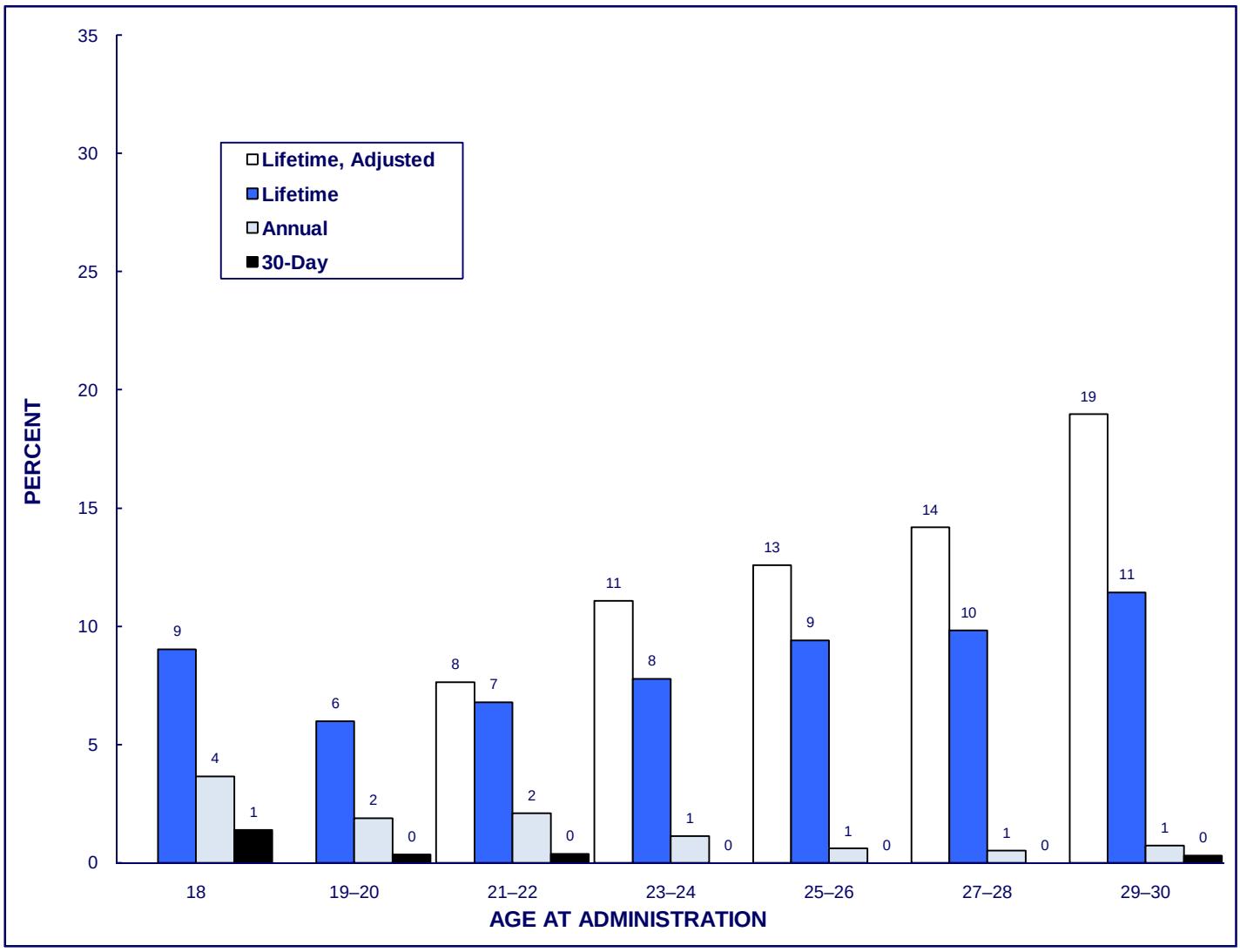
Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

[a]Unadjusted for the possible underreporting of PCP.

[b]Questions about the use of hallucinogens other than LSD were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-13

Inhalants:[a] Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30[b] by Age Group, 2010



Source. The Monitoring the Future study, the University of Michigan.

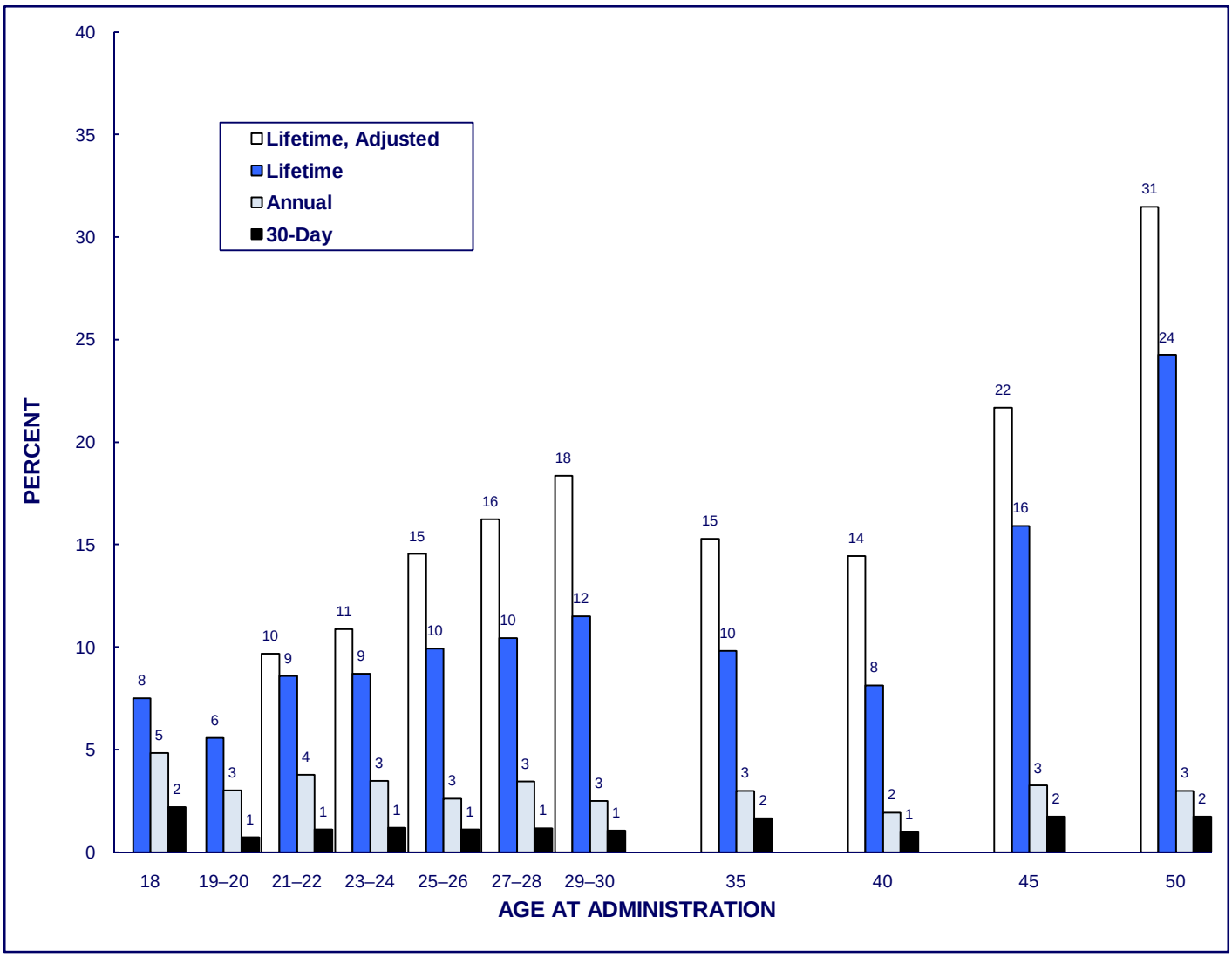
Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

[a]Unadjusted for the possible underreporting of amyl and butyl nitrites.

[b]Questions about the use of inhalants were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-14

Sedatives (Barbiturates): Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

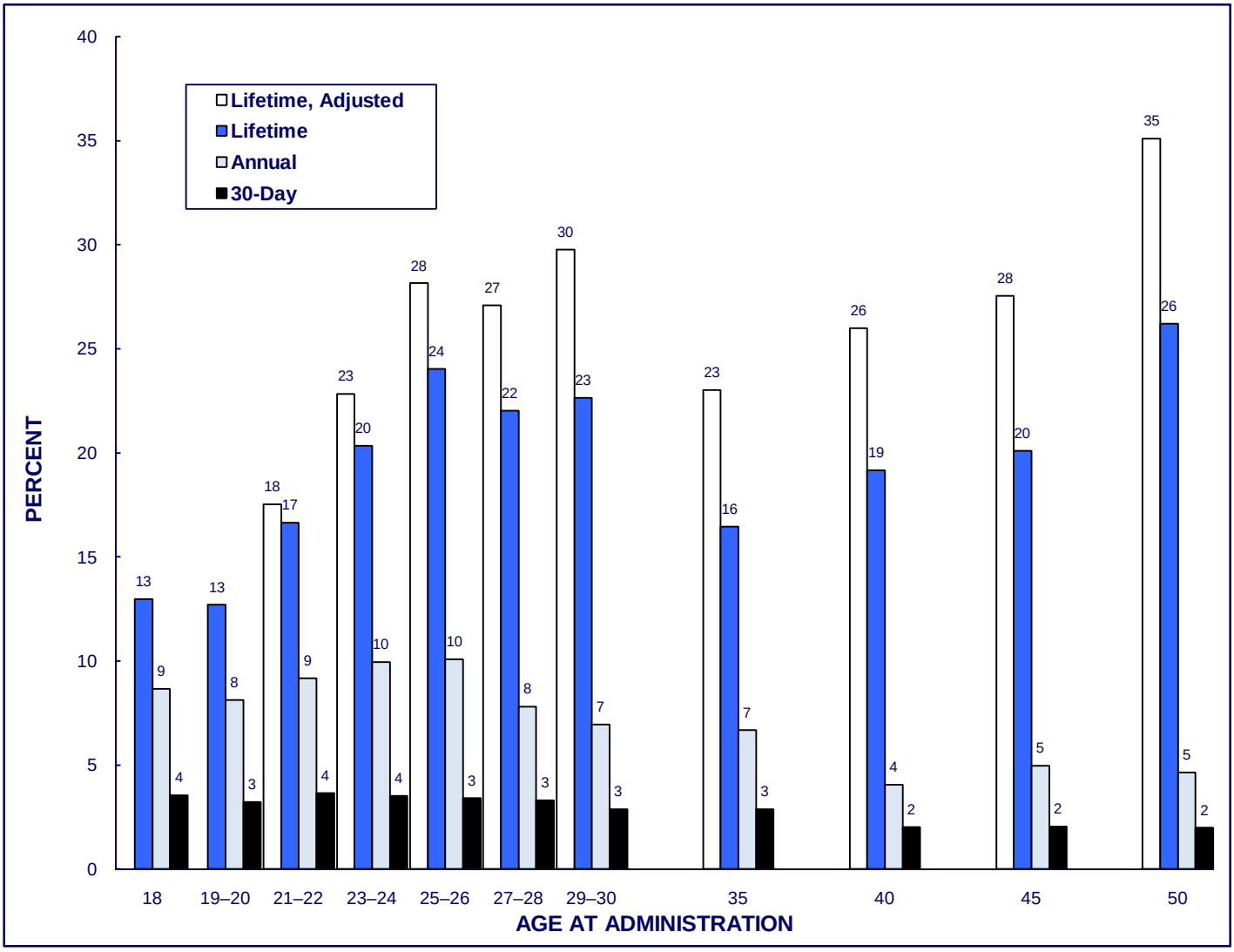


Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-15

Narcotics other than Heroin: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

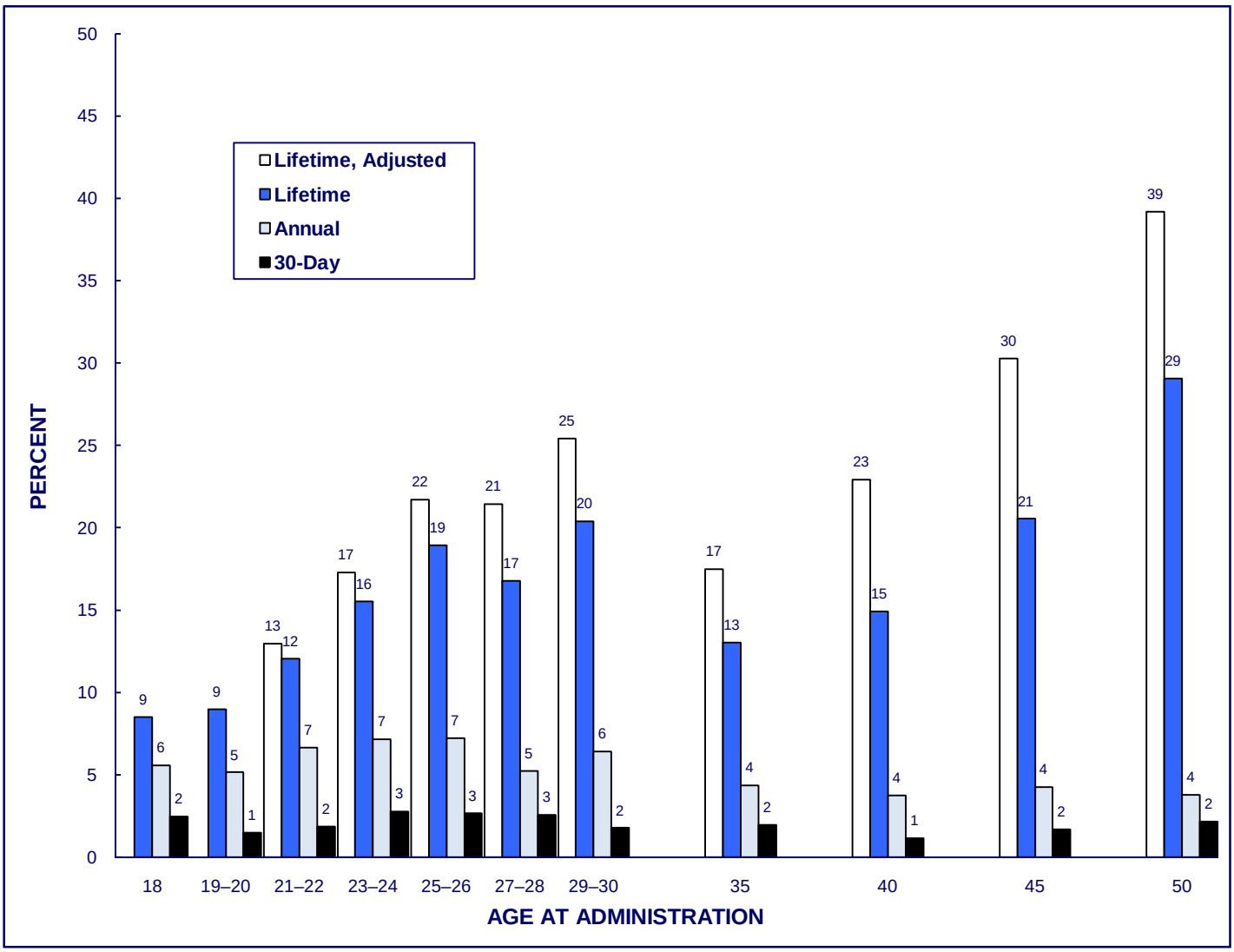


Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-16

Tranquilizers: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

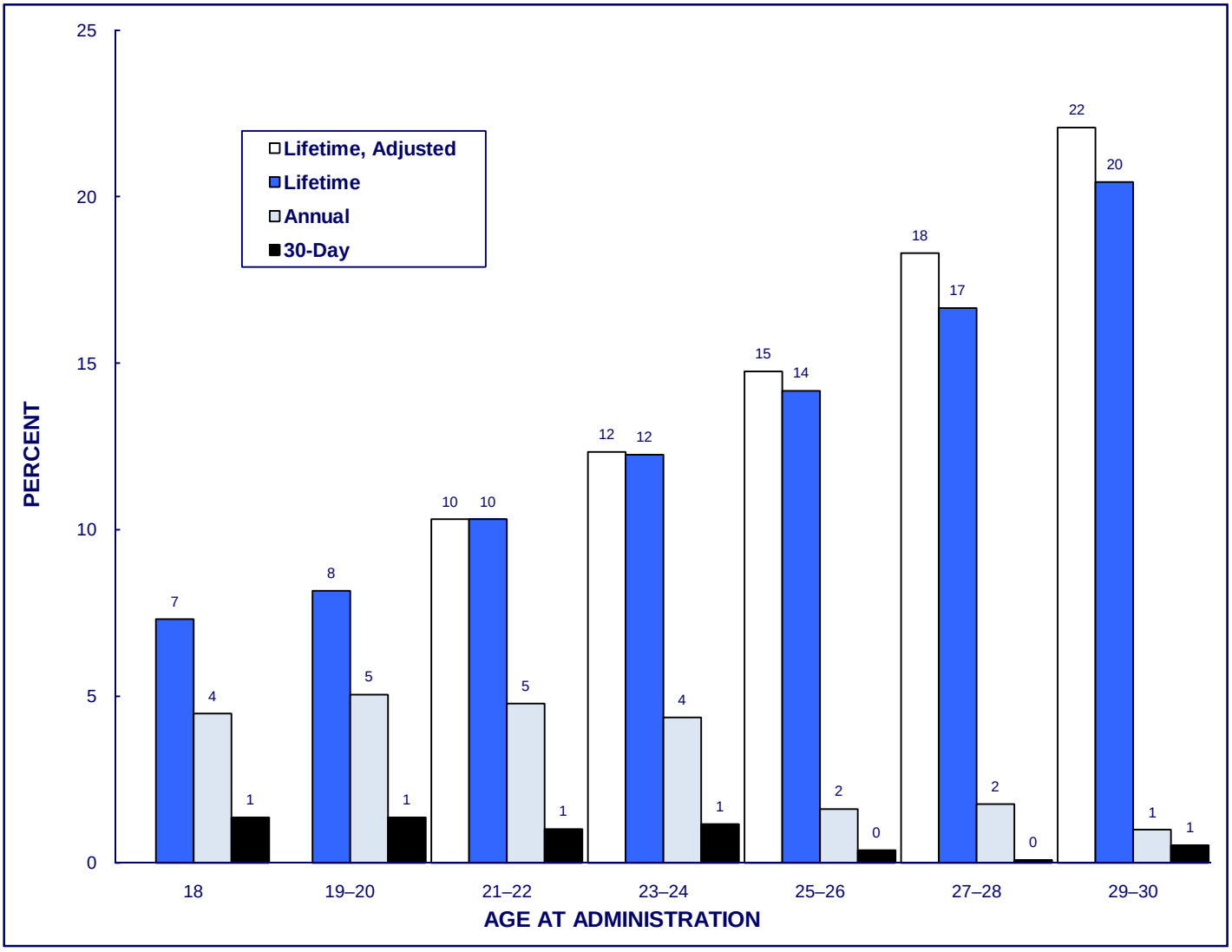


Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-17

Ecstasy (MDMA): Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30[a] by Age Group, 2010



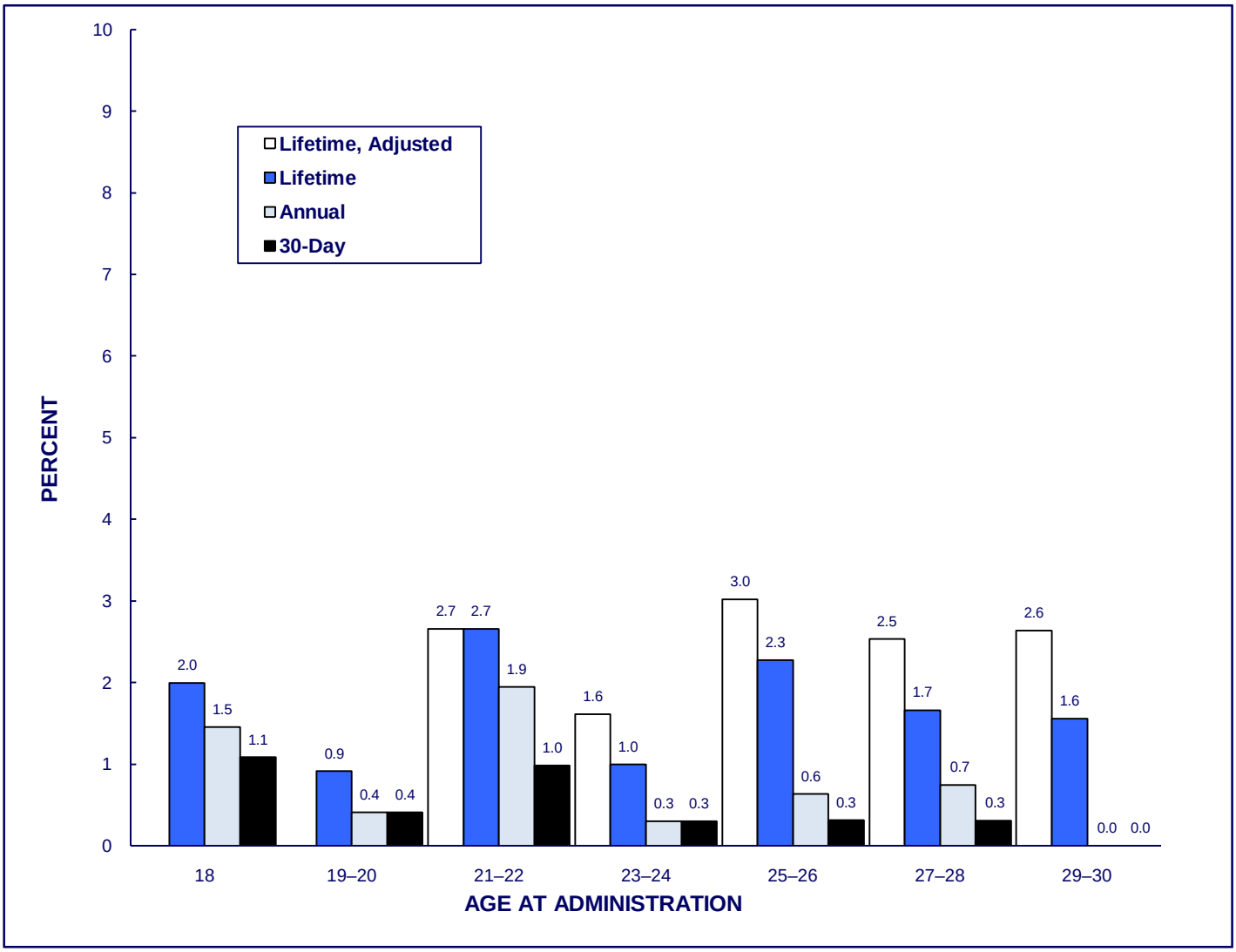
Source. The Monitoring the Future study, the University of Michigan.

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
Some bars with uneven height have the same number due to rounding.

[a]Questions about the use of ecstasy were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-18

Steroids: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30[a] by Age Group, 2010



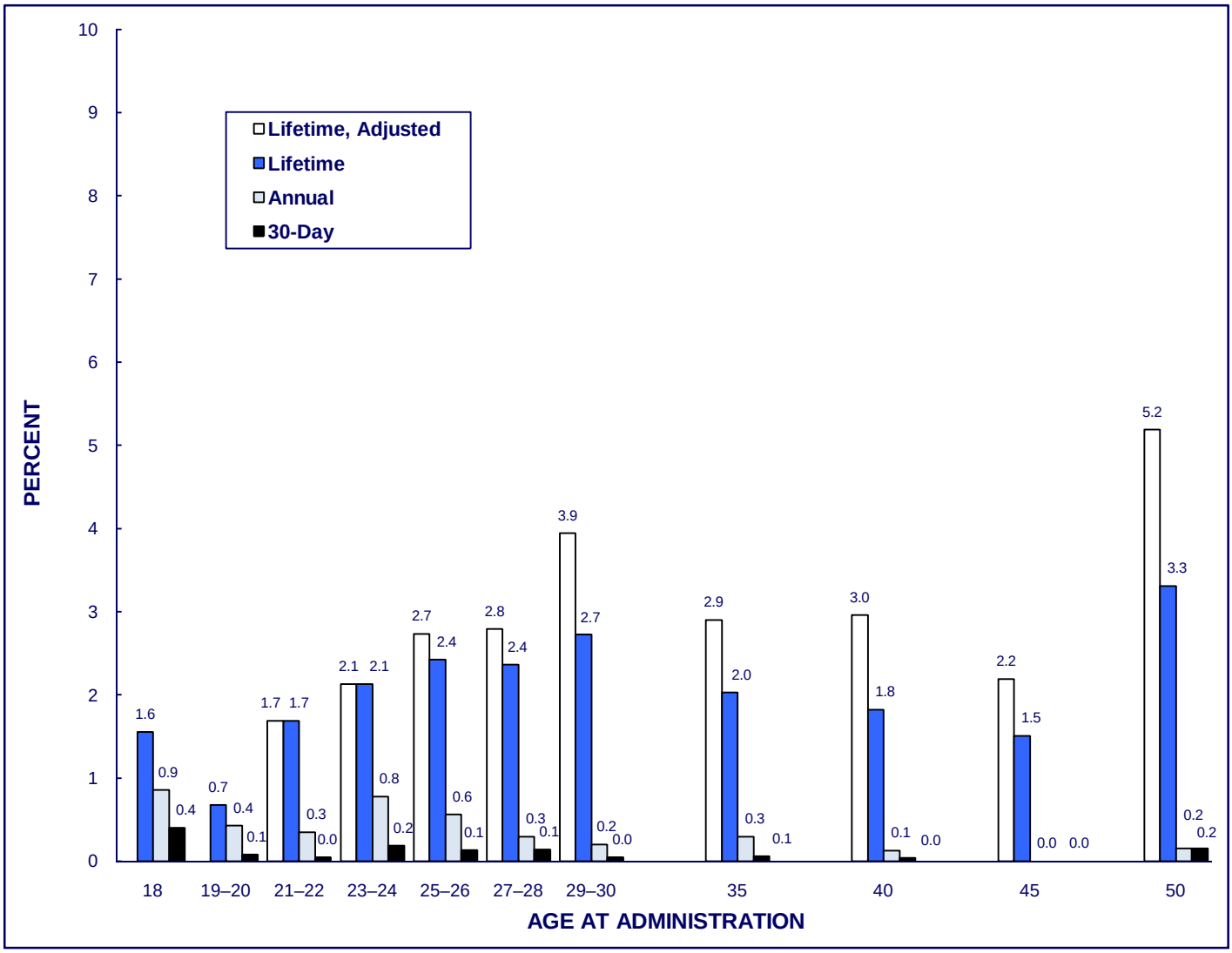
Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

[a]Questions about the use of steroids were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-19

Heroin: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

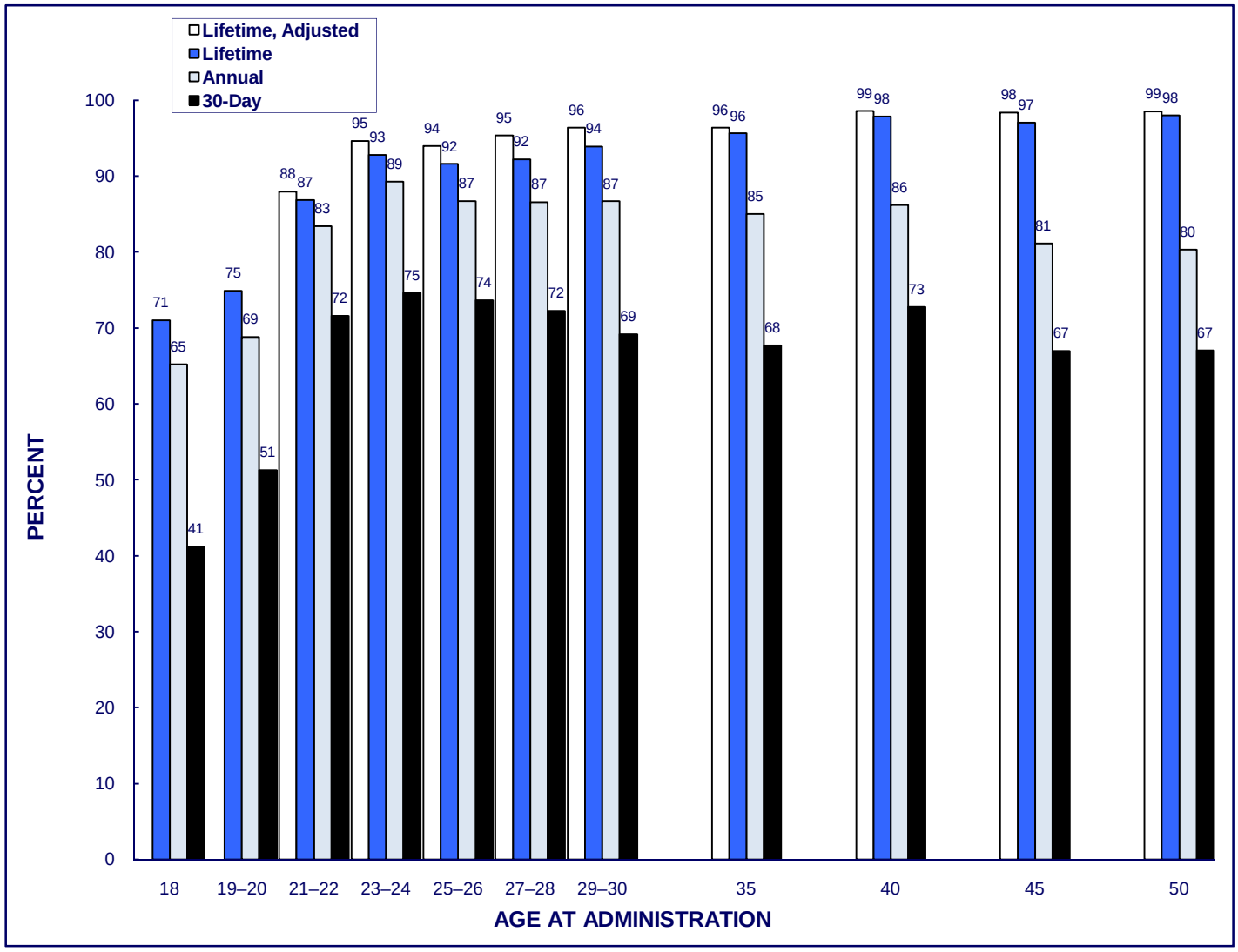


Source. The Monitoring the Future study, the University of Michigan.

Note. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

FIGURE 4-20a

Alcohol: Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010

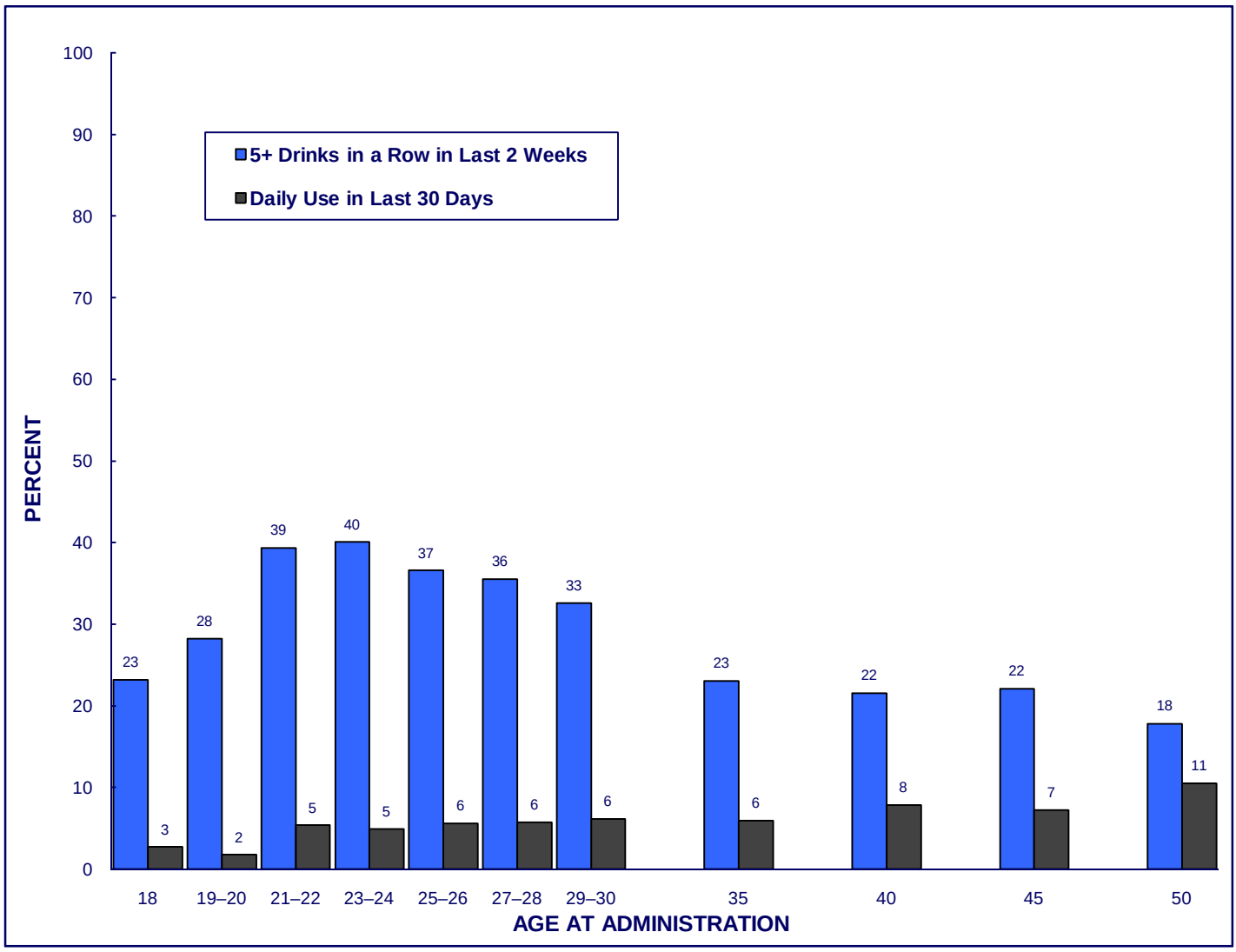


Source. The Monitoring the Future study, the University of Michigan.

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
Some bars with uneven height have the same number due to rounding.

FIGURE 4-20b

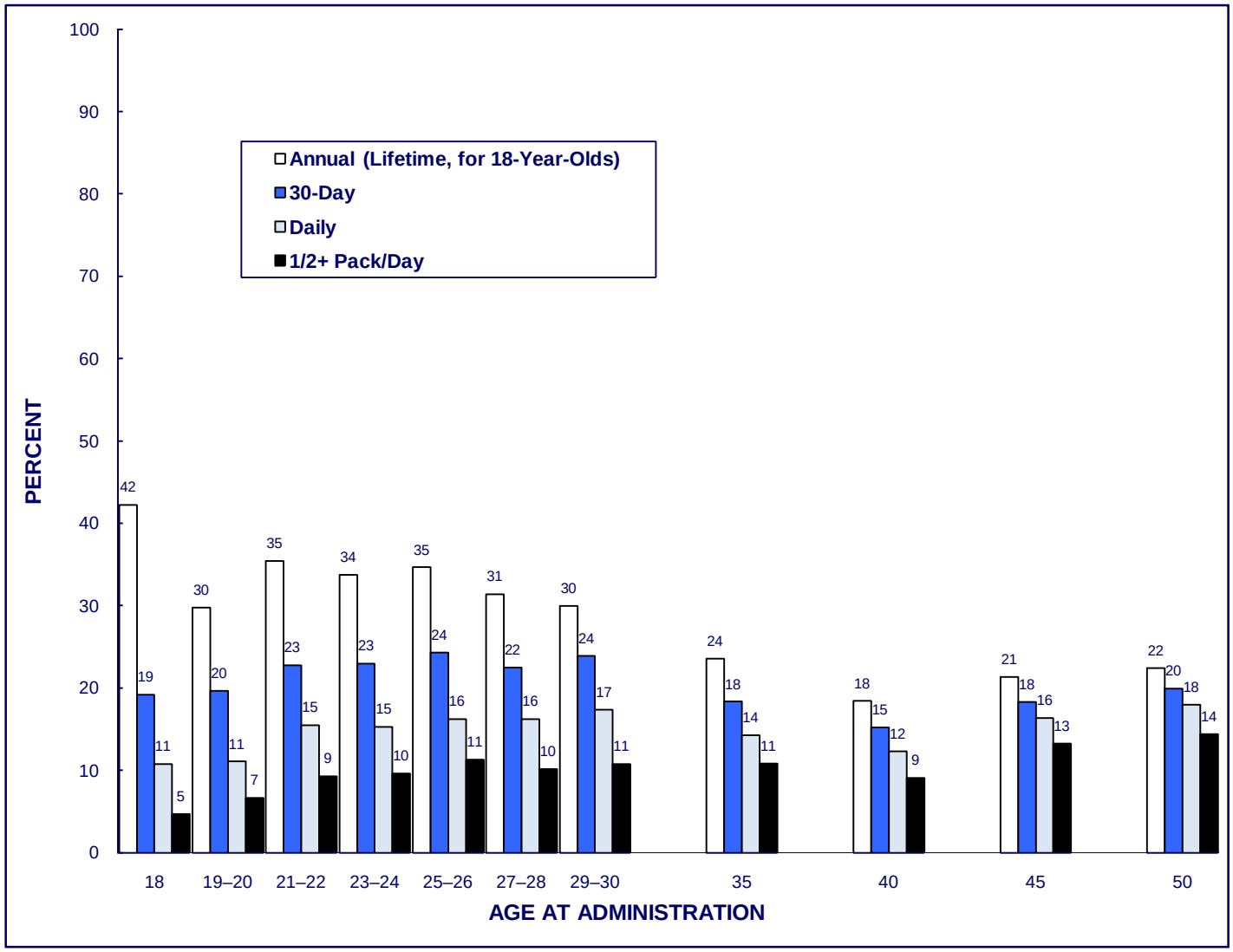
Alcohol: 2-Week Prevalence of 5 or More Drinks in a Row and 30-Day Prevalence of Daily Use among Respondents of Modal Ages 18 through 50 by Age Group, 2010



Source. The Monitoring the Future study, the University of Michigan.

FIGURE 4-21

Cigarettes: Annual, 30-Day, Daily, and Half-Pack-a-Day Prevalence among Respondents of Modal Ages 18 through 50 by Age Group, 2010



Source. The Monitoring the Future study, the University of Michigan.

Chapter 5

TRENDS IN DRUG USE IN EARLY AND MIDDLE ADULTHOOD

In this chapter, we examine historical trends in substance use for various age bands covering early and middle adulthood, ages 19 through 50. We use MTF panel data from graduating high school seniors over the past three and a half decades. Although panel data are typically used to study stability and change in the same individuals over time, we use the data here cross-sectionally to consider how substance use has varied across the years for particular age groups, much like we use the repeated cross-sectional surveys of secondary school students to track changes in behaviors over time for particular grade levels in Volume 1. In the early 1990s, we began to document large and important increases among secondary school students in the use of several substances, particularly marijuana and cigarettes. The increases continued among 12th graders through 1997, as discussed in *Volume I*. One of the important issues addressed in this chapter is whether such increases occurred only among adolescents or whether those higher-using graduating classes have carried their higher levels of drug use with them as they moved into young adulthood. In other words, are they exhibiting lasting cohort effects?

Figures 5-1 through 5-19c present separate trend lines for two-year age strata, that is, respondents who are one to two years beyond high school, three to four years beyond high school, and so on. These two-year age strata are used to reduce the random fluctuations that would be seen with one-year strata.[47] Each data point through age 32 in these figures is based on approximately 1,200 weighted cases drawn from two adjacent high school classes; actual (unweighted) numbers of cases are somewhat higher than those shown in the tables.[48] Figures 5-1 through 5-19c also present trend data from the age-35, age-40, age-45, and age-50 strata based on follow-up data collected at those ages. The older age strata are constituted in a slightly different way, in that the two half samples from a *single* graduating class (which through age 30 had been surveyed in alternating years) are now both surveyed in the same year.[49] The figures also include trend data for 18-year-olds for comparison purposes.

Tables 5-1 through 5-5 are derived from the same data but presented in tabular form for 19- to 28-year-olds combined. Data are given for each year in which they are available for that full age

[47]Strictly speaking, these two-year strata are not age strata, because they are based on all respondents in the given year from two adjacent high school classes, and they do not take into account the minor differences in individual respondents' ages within each graduating class; however, they are close approximations to age strata, and we characterize them by the modal age of the respondents as ages 19 to 20, 21 to 22, and so on.

[48]For the 2010 data, the 19- to 20-year-old stratum is composed of participating respondents from the high school graduating classes of 2009 and 2008, respectively; the 21- to 22-year-old stratum contains data from the classes of 2007 and 2006, respectively; and so on.

[49]In 2010, the 35-year-olds are graduates from the high school class of 1993 (weighted N = 919), the 40-year-olds from the high school class of 1988 (weighted N = 940), the 45-year-olds from the high school class of 1983 (weighted N = 875), and the 50-year-olds are graduates from the high school class of 1978 (weighted N = 994). Again, the unweighted or actual Ns are somewhat higher.

band (i.e., from 1986 onward). Respondents ages 29 and over are omitted because their inclusion would shorten the time period over which trends can be examined. However, the full data for them are contained in Figures 5-1 through 5-19c.

TRENDS IN PREVALENCE: EARLY AND MIDDLE ADULTHOOD

The trend results are as follows:

- Longer term declines among young adults in the annual prevalence of several drugs appeared to end in 1992 or 1993 (Table 5-2). Among the 19- to 28-year-old young adult sample, this was true for the use of ***any illicit drug***, ***marijuana***, ***any illicit drug other than marijuana***, ***hallucinogens***, ***narcotics other than heroin***, ***crack***, ***amphetamines***, ***sedatives*** (***barbiturates***), and ***tranquilizers***. In 1994, annual prevalence for most drugs remained steady. ***Cocaine other than crack*** reached its low point in 1994 after a period of substantial decline. In 1995 there were modest increases (a percentage point or less) in the annual prevalence of almost all of the drug classes in Table 5-2, some of which were statistically significant.

  Thus, it is clear that by 1992 or 1993 the downward secular trend (i.e., period effect) observable in all of these age strata (as well as among adolescents) had ended.[50] What has happened since then, however, is more of a cohort effect, reflecting an interaction between age and period such that only adolescents showed an increase in illicit drug use initially, and then they carried those new (higher) levels of drug use with them as they entered older age bands. Figure 5-1 shows the effects of generational replacement as the teens of the early 1990s reached their 20s. While all age groups generally moved in parallel through about 1992, the youngest age bands first showed signs of increase in their overall level of illicit drug use. The 18-year-olds shifted up first, followed by the 19- to 20-year-olds in 1994, the 21- to 22-year-olds in 1996, the 23- to 26-year-olds in 1999, the 29- to 30-year-olds in 2004, and the 35-year-olds in 2008. So far, the 40-, 45-, and 50-year-olds have not shown much increase. (In fact, the 8th graders, who are not included in these graphs, actually began an increase in use a year earlier than the 12th graders, showing that the cohort effect was already underway before use turned upward among 12th graders.)

  To summarize, in the earlier decline phase of the drug epidemic, annual prevalence of use of ***any illicit drug*** moved in parallel for all age strata, as illustrated in Figure 5-1; this pattern reflects a secular trend, because a similar change is observed simultaneously across different age levels. After 1992—in what we have called the "relapse phase" of the popular drug epidemic that began in the 1960s—a quite different pattern emerged, with 8th graders increasing their drug use first, followed by 10th and 12th graders; then the next oldest age group, but with a little delay; the next oldest then following, but with a longer delay; and the oldest two groups (45- and 50-year-olds) not yet showing an increase. This pattern reflects a classic cohort effect, in which different age groups are not all moving in parallel; rather, different age groups show increases when the cohorts (i.e.,

[50]Actually, the downturn ended at least a year earlier among 8th graders, who showed the beginning of an increase in 1992 (Table 2-2).

high school classes) having heavier use at an earlier stage in development reach the relevant age level. In addition, note that the slopes of the age bands are successively less steep in the older age groups, suggesting that some of the cohort effect may be dissipating with maturation. But we think it unlikely that only cohort effects are occurring (in addition to the long-established age effects); period effects also likely play a role.

- Use of ***marijuana*** shows an almost identical pattern to the illicit drug use index—not surprising given the fact that marijuana, the most prevalent of the illicit drugs, tends to drive the index (Figure 5-3a). After a long and steady decline from the late 1970s to the early 1990s, annual use leveled for a while among young adults before beginning a gradual increase. Virtually all of this increase was attributable to the two youngest age bands (18 and 19 to 20) until 1996, when the 21- to 22-year-olds began to show a rise. The older age bands then tended to show increases fairly sequentially, with 29- to 30- and 35-year-olds showing significant increases in 2008. The 18-year-olds' use of marijuana in the prior 12 months declined after 1997 and, later, several of the succeeding age bands through age 26 began to show declines in a pattern that again suggests lasting cohort differences.

- A similar pattern emerged for current ***daily marijuana*** use (Figure 5-3c). In the mid- to late 1990s, daily marijuana use among 35- and 40-year-olds was as high as or higher than use among some younger age groups, suggesting a lasting cohort effect on this behavior, because the cohorts comprising those older age strata grew up in a period of particularly high adolescent marijuana use. However, in recent years, the 35-, 40-, 45-, and 50-year-olds have been similar to respondents ages 27 to 30, who have had among the lowest levels of daily use. An important finding shown in Figure 5-3c is that, although the various age groups had been moving in parallel for many years at fairly similar levels of prevalence, the trends diverged considerably in the 1990s in a staggered fashion, such that now 18- to 30-year-olds have distinctly higher levels of daily marijuana use (around 4% to 6%) than the older age groups (around 2%), again reflecting stable cohort differences. In 2010 the upturn in daily marijuana use that had been occurring at younger ages (best seen in the table below Figure 5-3c) reached the age-35 stratum, with a significant increase from their 2009 prevalence rate.

- The index of using ***any illicit drug other than marijuana*** has shown a similar transition in the pattern of change. Period effects seemed to predominate until about 1992, but a cohort-related pattern of change emerged thereafter (Figure 5-2). And, while annual use leveled by 1997 among 18-year-olds, it began rising in 1999 among 19- to 20-year-olds, in 2000 among 21- to 22-year-olds, in 2002 among 23- to 24-year-olds, in 2005 among 29- to 30-year-olds, and so on. The primary difference from the picture for marijuana is that the increases were not as sharp in the 1990s for most of the age bands. (Compare Figure 5-2 with Figure 5-1 to see the difference.)

- In the 1980s and 1990s, ***LSD*** use also increased among those in their teens and early 20s more than among the older strata, as Figure 5-6 illustrates. Over the interval 1985 to 1996, there was a gradual but considerable increase in annual LSD use among respondents ages 18 to 24, which was sharpest among 12th graders and 19- to 20-year-

olds. The increase did not seem to radiate up the age spectrum beyond age 26. A turnaround began among 12th graders after 1995 and then among the older age groups in a somewhat staggered fashion, again indicative of a cohort effect. Declines in the years since have been greatest among 18- to 24-year-olds, who had attained the highest rates of LSD use. Use declined considerably from 2001 to 2003 in all age bands (including 8th and 10th graders), and then leveled through 2007 at historically low rates, suggesting that an important secular trend may have set in, quite possibly related to decreased availability of the drug.

- Several drug classes exhibited a faster decline in use among the older age groups than among 12th graders during the earlier period of decline in the 1980s (see Figures 5-1 through 5-19c). These included ***any illicit drug***, ***any illicit drug other than marijuana***, ***amphetamines***, ***hallucinogens*** (until 1987), ***LSD*** (through 1989), and ***methaqualone***.

- In fact, a crossover is evident for some drugs when 12th graders are compared to young adults. In earlier years 12th graders had lower usage levels, but more recently they have tended to have higher levels than post–high school respondents for use of ***any illicit drug***, ***marijuana***, ***hallucinogens***, ***LSD*** specifically, ***crack cocaine***, ***sedative*** (***barbiturates***), and ***crystal methamphetamine*** (***ice***).

- ***Cocaine*** (Figure 5-9) gives quite a dramatic picture of change. Unlike most other drugs, active use of cocaine has generally tended to rise with age after high school, usually peaking three to four years past graduation. This is a classic example of an age effect. Despite the large age differences in absolute prevalence, all age strata moved in a fairly parallel way through 1991, indicating that a secular trend was taking place in addition to the age effect. All began a sharp and sustained decline in use after 1986. The two youngest strata (12th graders and 19- to 20-year-olds) leveled by 1992, whereas use continued a decelerating decline for a few years beyond that in the older age groups, signaling the beginning of a cohort effect. From 1994 to 1999, cocaine use rose some in the five youngest strata (i.e., those younger than 27) on a somewhat staggered basis, with the three older groups still decreasing a bit more over that same period. This, to some degree, reversed the age differences that were so prominent in the 1970s and 1980s. Cohort-related change appears to have predominated in the 1990s, quite possibly as the result of "generational forgetting" of the cocaine-related casualties so evident in the early to mid-1980s. In other words, those in the older cohorts retained that learning, but those in the newer cohorts never had it. The fact that from 1994 to 1996 the 35-year-olds had higher lifetime prevalence levels of cocaine use than some of the younger age groups also suggests some lasting cohort-related differences established during the peak years of the cocaine epidemic. During the past few years, there has been some decline in cocaine use among those ages 18- to 28-years old, but less among those older than that who were at quite low levels already.

- ***Crack*** use was added to the 12th graders' questionnaires in 1986 and to the follow-up questionnaires in 1987. The decline in annual crack use, which began right after the introduction of these questions, ended in 1991 among 12th graders, and by 1994 it had ended among young adults (Figure 5-10 and Table 5-2). Among 19- to 28-year-olds, the

annual prevalence rate held at about 1%, which was down from the peak levels of just over 3% in 1986 through 1988. As was true for a number of other drugs, crack use began to rise after 1993 among 12th graders, but not in the older age strata until years later, when increases were observed in a somewhat staggered pattern going up the age scale. Again, a cohort effect due to generational replacement seems to have been occurring. Since 1994, 18-year-olds have had the highest reported rates of use, though they have shown considerable decline since 1998 and, in 2009, had the lowest level of use (1.3% annual prevalence) since crack use was first measured in 1986 (4.1%). Importantly, all of the other age groups now have annual prevalence rates below 1.0%.

- With regard to ***inhalants***, the large separation of trend lines for the younger age groups in Figure 5-4 shows that, across many cohorts, use has dropped consistently and sharply with age, particularly in the first few years after high school. In fact, of all the populations covered by MTF, the 8th graders (not shown in Figure 5-4) have had the highest rate of use, indicating that the decline in use with age starts at least as early as 8th or 9th grade. Like cocaine, inhalants have shown a strong age effect, but unlike cocaine, use of inhalants declines with age.

  Figure 5-4 also shows that, until the mid-1990s, there was a long-term gradual increase in annual inhalant use (unadjusted for underreporting of nitrite inhalants), one which was greatest among 12th graders, next greatest among 19- to 20-year-olds, and next greatest among 21- to 22-year-olds. Respondents more than six years past high school, who historically have had a negligible rate of use, did not exhibit the increases in use seen among the younger respondents, which began at least as early as 1977 among 12th graders and in 1983 among 19- to 20-year-olds. There was some subsequent increase among 21- to 22-year-olds and later still an increase among 23- to 24-year-olds. After 1995, this long-term trend, reflecting a cohort effect, began to reverse in the two youngest age strata and subsequently among the next two age strata. The older age strata have generally shown negligible rates of inhalant use.

- The annual prevalence for ***ecstasy*** (***MDMA***) use among the entire young adult sample (ages 19 to 28) was at about 1.5% in 1989 and 1990 (Table 5-2 and Figure 5-8). After 1991 it dropped to around 0.8% for several years before starting to rise significantly in 1995. Ecstasy use then began to rise in all of the young adult age strata, most notably in the younger age bands (19 through 26) through 2001. Use among 12th graders, which was not measured until 1996, was by then the highest of any of the age groups at 4.6% annual prevalence. Twelfth graders' use slipped by a full percentage point through 1998 before jumping significantly—by two full percentage points—in 1999. (Use by 10th graders also jumped significantly in 1999.) Thus it appears that young people from their mid-teens to mid-20s discovered ecstasy after some years of low and relatively level use. In 2000 the sharp increase in use continued among ages 15 to 16 (10th graders) through age 26, and also showed up among 8th graders (13- to 14-year-olds) for the first time. By 2001 the increase had slowed and even begun to reverse among ages 18 to 26, even as the 31- to 32-year-olds showed their first appreciable increase in ecstasy use. We attributed the deceleration in 2001 to a fairly sharp increase in perceived risk that year and predicted a turnaround in use in 2002. In 2002, and again in 2003, perceived risk

increased sharply and, as Figure 5-8 illustrates, all age bands showed a reversal, with a sharp decrease in use. Clearly, the decrease has been sharpest in the younger age bands, perhaps because a cohort effect is at work in the upper ages, helping to offset a downward secular trend. In 2010, there was some divergence in use as a function of age. For those age 25 to 30 there was a leveling or decline, while those 19 to 24 showed some increase—probably reflecting a recent increase among the 18-year-olds as a cohort effect.

- In the late 1970s, ***amphetamine*** use rose some with age beyond high school; but after a long period of secular decline in use from 1981 to the early 1990s, this relationship had reversed (see Figure 5-13). The declines were greatest in the older strata and least among 12th graders, even though use decreased substantially in all groups. As was true for many illicit drugs, amphetamine use began to rise among 12th graders after 1992, and eventually among the 19- to 24-year-olds; but there has only recently been a small increase among 25- to 30-year-old respondents. In other words, another cohort-related pattern of change seems to have emerged in the 1990s for amphetamines, though in this case it may be dissipating quickly after respondents reach their early 20s. While amphetamine use declined a fair amount among 12th graders between 2002 and 2009 (from 11.1% to 6.6%), there was less proportional decline in the older age groups, and little or no decline among those ages 29 to 35. At present the age differences through age 50 are of considerable magnitude and mostly ordinal (with 18- to 24-year-olds showing the highest rates of use and those over 30 much lower rates). In the past one to two years there has been some increase observed among those ages 18 to 26.

- Since 1990, when it was first measured, use of ***crystal methamphetamine*** (***ice***) has remained at fairly low rates in this young adult population (Figure 5-14). However, among 19- to 28-year-olds combined, annual prevalence rose from 0.4% in 1992 to 1.6% by 2005, before falling back to 0.5% by 2010 (Table 5-2). Use had been rising among 12th graders and 19- to 20-year-olds specifically between 2000 and 2002, but since then their use has declined to low levels. General ***methamphetamine*** use was first measured in 1999, and its use until 2005 was stable among 19- to 28-year-olds, with annual prevalence fluctuating between 2.4% and 2.8%. Use has declined since to 0.7% by 2010 (Table 5-2). This recent decline may well reflect a cohort effect, as use has been declining steadily among 12th graders since 2002.

- Use of ***heroin*** increased appreciably in 1995 among 12th graders and young adults ages 19 to 24, but not among the older age bands (Figure 5-11). It remained at this higher plateau in these younger age bands through 2000 or 2001, before falling off some, particularly among 12th graders. Among young adults, generally, annual use had previously been quite stable from at least as far back as 1986 through 1994 (Table 5-2), and it stabilized again at a higher level after 1994—a level roughly twice as high as the previous one. Use among 12th graders declined since 2000, and declined among 19- to 20-year olds since 2001, but remained fairly stable (at a very low rate of use) among the older age groups.

- Among 19- to 28-year-olds, use of ***narcotics other than heroin*** leveled after 1991, following a long period of slow, fairly steady decline (Figure 5-12). Twelfth graders

showed an appreciable increase in use beginning in 1993, which continued into 2004, while 19- to 20-year-olds showed some increase after 1994, 21- to 22-year-olds after 1996, 23- to 24-year-olds after 1997, and the older age groups after 2000. Thus, cohort-related change appears to have been occurring during the 1990s and beyond for this class of drugs, following a long period of secular trends. In 2002, the question text was changed on three of the six questionnaire forms to update the list of examples of narcotic drugs other than heroin. Talwin, laudanum, and paregoric, each of which had negligible rates of use by 2001, were replaced by Vicodin, OxyContin, and Percocet. As a consequence of this revision, reported use rates increased in 2002. Data presented here for 2002 are from three of the six questionnaire forms with the new wording (which showed higher prevalence rates than the older question did). All six questionnaire forms contained the new wording beginning in 2003, so the data presented for 2003 and after are based on all forms. Although the older version of the question showed no significant changes occurring in 2002, there was a significant increase in narcotics use observed in 2003 (based on the new question in both 2002 and 2003). Among 19- to 28-year-olds, annual prevalence reached a peak level of 9.1% in 2006, about where it stands in 2010 (9.0%). Some turnaround was observed among 19- to 22-year-olds after 2004 in the use of this important class of drugs, but use continues to rise in some of the older age bands, likely reflecting a cohort effect. Use of these drugs outside of medical supervision remains relatively high in all age groups studied here, with rates of around 8% to 10% among those ages 18 to 26, about 7% among those age 35, and 4% to 5% among those ages 40 to 50.

- The annual prevalence rates for ***Vicodin*** and ***OxyContin***, which were first measured in 2002 (separately from the general question about narcotics other than heroin), were appreciable (8.2% and 1.9%, respectively) for 19- to 28-year-olds. Increases were observed for these two drugs in subsequent years. Among 19- to 28-year-olds (Table 5-2), the annual prevalence of ***OxyContin*** use rose from 1.9% in 2002 to 3.1% in 2004 through 2006—changes that were fairly parallel to those observed among 12th graders over the same interval (when their annual prevalence rose from 4.0% in 2002 to 5.5% in 2005). The 2002–2005 increases in OxyContin use were significant for both 12th graders and 19- to 28-year-olds. Annual prevalence was stable from 2004 to 2007 at about 3% for young adults, but increased in both 2008 and 2009, reaching 5.2%. This was followed by a significant decline to 3.2% in 2010. ***Vicodin*** use rose by less, but started from a higher base, with annual prevalence increasing slightly among 19- to 28-year-olds, from 8.2% in 2002 to 8.9% in 2004; it remained at about 9% through 2009, followed by a non-significant decline to 7.8% in 2010.

- ***Sedative*** (***barbiturate***) use (Figure 5-15) showed a long-term parallel decline in all age groups covered through the late 1970s and 1980s, leveling by about 1988. While use remained low and quite level for most of the age bands for about five years, it began to rise by 1993 among 18-year-olds, by 1995 among 19- to 20-year-olds, by 1997 among 21- to 22-year-olds, by 1998 among 23- to 24-year-olds, by 2001 among 25- to 28-year-olds, and by 2005 among 29- to 30-year-olds. The same cohort-related pattern of change seen during the 1990s for many other drugs also exists for sedatives (barbiturates); like most other drugs, this pattern was preceded by a long period of secular change. While use

has now leveled off among most younger age groups, the 35-, 40-, and 45-year-olds all showed increases in sedative (barbiturate) use between 2006 and 2008. However, their usage rates leveled since 2008. In 2010 the annual usage rates for the 35- to 50-year olds are all about 2% to 3%.

- ***Tranquilizers*** (Figure 5-16) follow a similar pattern to that just described for sedatives (barbiturates). One difference is that the 12th graders' annual prevalence rate has not always been the highest among the various age groups, as was the case for sedatives (barbiturates), although it was highest between 1994 and 2000 as a result of a greater increase in tranquilizer use among the 12th graders than in the young adult strata. In the last six years or so, however, as use rose and then leveled among those in their early 20s, the 12th graders no longer stand out as having the highest rate of tranquilizer use. In fact, it is the 21- to 22-year-olds or 23- to 24-year olds that had the highest rate in 2005 through 2009. This is another clear example of a cohort-related pattern of change. Now that tranquilizer use has leveled and begun to decline among 12th graders and 19- to 20-year-olds, it is likely that we will see that pattern echoed in the older age groups as a new cohort effect plays out.

- Since 1991, when measures of steroid use were first introduced into two of the follow-up questionnaires, use of ***anabolic steroids*** has been substantially lower after high school than during 12th grade (Figure 5-17). The age-related differences are not consistent; prevalence rates among the young adult strata are all quite low and do not appear to trend in any systematic way. In general, it seems that the rise in steroid use from 1999 to 2003 among 8th and 10th graders and from 2001 to 2004 among 12th graders was largely specific to those age groups. Annual prevalence rates are now very low for respondents ages 21 and older.

- ***Alcohol*** trends for the older age groups (see Figures 5-18a–d) have been somewhat different than for the younger age groups in some interesting ways. For ***30-day*** prevalence and ***occasions of heavy drinking***, the declines for the two youngest age strata (12th graders and those one to two years past high school) during the 1980s were greater than for the older age groups. These differential trends were due in part to the effects of changes in minimum drinking age laws in many states, changes that would be expected to affect primarily the age groups under age 21. However, because similar (though weaker) trends were evident among 12th graders in states that maintained a constant minimum drinking age of 21, the changed laws cannot account for all the downward trends, suggesting that there was also a more general downward trend in alcohol consumption during the 1980s.[51] By 1994, these declines in 30-day prevalence had slowed or discontinued for virtually all age groups until 1997, when they began to turn downward again for 12th graders, and 1999, when they began to decline among 19- to 20-year-olds.

  Those respondents three to four years past high school show the smallest downward trend in ***occasions of heavy drinking*** or ***binge drinking*** (i.e., having five or more drinks in a

[51]O'Malley, P. M., & Wagenaar, A. C. (1991). Effects of minimum drinking age laws on alcohol use, related behaviors, and traffic crash involvement among American youth: 1976–1987. *Journal of Studies on Alcohol, 52*, 478–491.

row at least once in the past two weeks) since the early 1980s (see Figure 5-18d). One important segment of that age stratum is composed of college students, who have shown very little decline in alcohol use over the past quarter century (see chapter 9). In 2010 the binge drinking rate for 19- to 20-year-olds (who are, of course, under the legal age) is considerably lower (28%) than for those just one to two years older (39%).

The older age groups generally showed only a modest long-term decline in annual prevalence rates and no recent decline in binge drinking or 30-day prevalence rates. Note that the binge drinking trend lines for different age groups (Figure 5-18d) are spread out on the vertical dimension, reflecting large and persisting age differentials (age effects) in this behavior. The relationship with age is curvilinear, however. In recent years the 21- to 24-year-olds have consistently shown the highest rates of binge drinking, and the 25- to 26-year olds have just about joined them after some years of increasing use going back to the mid-1990s. Binge drinking also has been gradually increasing since the early 2000s among 25- to 30-year-olds, perhaps reflecting a cohort effect that emerged during the period of increasing adolescent binge drinking in the early 1990s.

From the early 1980s through the mid-1990s, rates of ***daily drinking*** (Figure 5-18c) fell by considerable proportions in all age strata for which we have data, reflecting an important change in drinking patterns in the culture. Among 19- to 28-year-olds combined, daily drinking declined from 1987 (6.6%) to 2000 (4.1%), and has increased a little to 4.6% in 2010 (Table 5-4). Daily drinking rates have generally been highest for 40-, 45-, and 50-year-olds in recent years.

It is worth noting that the 35-, 40-, 45-, and 50-year-olds have had among the lowest rates of binge drinking but among the highest rates of daily drinking in recent years for which we have data available. These patterns—particularly the high rate of daily drinking—likely reflect age effects as well as perhaps some enduring cohort differences (because these cohorts had considerably higher rates of daily drinking when they were in high school).

- The prevalence rates for ***cigarette smoking*** show more complex trends than most other substances, due to the long-term presence of both cohort and age effects, plus slightly different patterns of such effects on different measures of smoking in the past 30 days (one or more cigarettes per month, one or more cigarettes per day, and a half pack or more of cigarettes per day).

  In the earlier years of MTF, the curves across time were of the same general shape for each age band (Figures 5-19a–c), but each of those curves tended to be displaced to the right of the immediately preceding age group, which was two years younger. The pattern is clearest in Figure 5-19c (half pack plus per day). This pattern is very similar to the one described in *Volume I* for lifetime smoking rates for various grade levels below senior year; it is the classic pattern exhibited by a cohort effect,[52] and we believe that the

[52]O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1988). Period, age, and cohort effects on substance use among young Americans: A decade of change, 1976–1986. *American Journal of Public Health, 78,* 1315–1321.

persisting cohort differences are due to the dependence-producing characteristics of cigarette smoking.

The declining levels of cigarette smoking across cohorts at age 18, which were observed when the classes of 1978 through 1981 became 12th graders, were later observable in the early-30s age band, as those same high school graduating classes grew older (see Figures 5-19b and c). This was true at least through about 1991. After that, there was a considerable convergence of rates across age groups, largely because there were few cohort differences among the senior classes who graduated from the early to mid-1980s through the early 1990s—a period of fairly level use.

In addition to these cohort differences, there are somewhat different age trends in which, as respondents grow older, the proportion smoking at all in the past 30 days declines some, while the proportion smoking a half pack per day actually increases. Put another way, many of the light smokers in high school either become heavy smokers or quit smoking.[53]

The picture was further complicated in the 1990s when it appears that a new cohort effect emerged, with smoking among adolescents rising sharply (beginning after 1991 for 8th and 10th graders and after 1992 for 12th graders). The 19- to 20-year-olds soon showed a rise at the beginning of the 1990s—perhaps responding to some of the same social forces as the adolescents (including the Joe Camel advertising campaign); but 21- to 24-year-olds did not show an increase until about 1995, and 25- to 26-year-olds until about 1996. Those young adults over age 26 have not yet shown much increase; it is quite possible that an upward cohort effect was offset by a downward secular trend during this period.

After about 1999, smoking rates among virtually all age groups leveled or declined, suggesting that societal forces may be affecting all age groups in a similar way, giving rise to a secular trend. Large increases in price and a great deal of adverse publicity for the tobacco industry are highly plausible candidates, as are an increase in state and national antismoking advertising, the demise of the Joe Camel campaign and billboard advertising, and the imposition of no-smoking regulations in many public and workplace settings by states and municipalities. Since 2003, thirty-day, daily, and half-pack smoking have all declined among 35-, 40-, and 45-year-olds (Figures 5-19a through 5-19c).

- Apart from cigarettes, none of the other drugs included in the study showed a clear long-term pattern of enduring cohort differences in the earlier years of MTF (the 1970s and 1980s), despite wide variations in their use by different cohorts at a given age. There was one exception; a modest cohort effect was observable for ***daily marijuana*** use (Figure 5-3c) during the late 1970s and early 1980s.[54] (But as more recent classes leveled at lower rates of use, evidence for the cohort effect faded.) The emergence in the 1990s of a new

[53] To illustrate, in the graduating class cohort of 1976, 39% were 30-day smokers in senior year, 39% by ages 19 to 20, but only 28% by ages 31 to 32—a net drop of 11 percentage points over the entire interval. By way of contrast, 19% of that class was half-pack-a-day smokers in senior year, 24% by ages 19 to 20, and 21% at ages 31 to 32—a net gain of five percentage points and two percentage points over the respective intervals.

[54] O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1988). Period, age, and cohort effects on substance use among young Americans: A decade of change, 1976–1986. *American Journal of Public Health, 78,* 1315–1321.

epidemic of marijuana use among teens once again yielded a strong pattern of cohort effects. As can be seen in Figure 5-3c, daily use rose sharply among 12th graders and 19- to 20-year-olds after 1992, among 21- to 22-year-olds after 1993 with a sharp rise occurring in 1997, among 23- to 24-year-olds after 1998, among 25- to 26-year-olds after 2000, among 27- to 28-year-olds in 2003, among 29- to 30-year-olds in 2005, among 35- and 40-year-olds in 2006, and among 45-year-olds in 2007. This is not unlike the pattern of change for cigarette smoking that occurred in the 1990s (Figure 5-19a). The cohort effect for daily marijuana use may be attributable, in part, to the very strong association between that behavior and regular cigarette smoking. The net effect of all of this is that a considerable age difference has emerged in current daily marijuana use since the early 1990s. The cohort effect resulting from the rise in use among 18-year-olds in the latter half of the 1990s has been working its way up the age spectrum, and in 2010 was observable in the form of a significant increase among 35-year-olds. Among the 40-, 45-, and 50-year-olds in the study, 2.2–2.3% report that they currently smoke marijuana on a daily basis (though many more of them did so in the past) while among those ages 19- to 24-years-old, between 5.1% and 6.0% do so.

- In sum, except for ***cigarettes*** and ***alcohol,*** substance use prior to 1992 among 12th graders and young adults had shown longer term trends that were highly parallel across age groups, indicating that general secular trends predominated in that period. Since 1992, however, there has been considerable divergence in the trends for different age bands on a number of drugs as use among adolescents rose sharply, followed by subsequent rises among 19- to 20-year-olds, 21- to 22-year-olds, and so on. This divergence indicates a new cohort effect, quite possibly reflecting a generational forgetting of the dangers of drugs by the cohorts who reached senior year in the early to mid-1990s. Data discussed in chapter 6, "Attitudes and Beliefs about Drugs among Young Adults," provide additional evidence for this interpretation.

TRENDS FOR IMPORTANT SUBGROUPS OF YOUNG ADULTS

Four-year age bands have been used here to examine subgroup trends in order to yield sufficiently large numbers of cases to permit reliable estimates for the various subgroups being examined. Subgroup data for respondents of each gender and for respondents from communities of different sizes are available for 19- to 22-year-olds since 1980, 23- to 26-year-olds since 1984, and 27- to 30-year-olds since 1988. Beginning in 1987, a question about state of residence was added to all follow-up questionnaires, permitting trend data to be calculated for the four regions of the country since then. These various subgroup data are not presented in tables or figures here because of the substantial amount of space they would require. Rather, a verbal synopsis of what they contain is presented.

Gender Differences in Trends

- Over the long term, gender differences narrowed for some drugs among young adults in each of these three age bands, primarily when a steeper decline in use among males (who generally had higher rates of use) occurred in the 1980s. The overall picture, though, is one of parallel trends, with use among males remaining consistently and modestly higher

for most drugs, including the indexes of ***any illicit drug*** use and use of ***any illicit drug other than marijuana*** in the prior year (see Table 5-5, for example).

The downward trend in ***marijuana*** use among 19- to 22-year-olds between 1980 and 1989 was also a bit sharper among males than females, narrowing the gap between the two groups. Annual prevalence fell by 22 percentage points (to 34%) among males, compared to a drop of 14 percentage points (to 31%) among females, leaving a difference of three percentage points. Since 1995, the gender gap has averaged about 5 to 9 percentage points in all three age groups—that is, for 19- to 22-year olds, 23- to 26-year-olds, and 27- to 30-year-olds.

Similarly, between 1980 and 1993, ***daily marijuana*** use for the 19–22 age group fell from 12.9% to 2.9% among males, and 6.1% to 1.7% among females, narrowing the rather large gap that existed in the early 1980s. As use rose after 1993, the gap widened again. Among 23- to 26-year-olds, as daily use first began to increase in 1998 and 1999, the gap between the genders began to widen. In the oldest age group (ages 27–30), the difference had been fairly constant, with daily marijuana use among males generally being about two percentage points higher than among females. The gap has widened a bit in recent years to three or four percentage points.

- Males have shown slightly higher proportions using ***any illicit drug other than marijuana*** in all three age bands, a fact that has not changed appreciably over the years.

- For ***LSD***, males have consistently had higher rates of use than females. Among 19- to 22-year-olds, the male–female differences tended to diminish as use declined (from 1980 to 1985 and again from 1999 to 2004) and expand as use increased (1986–1995). In the two older age bands there was less change in use, and differences had been relatively consistent (with males higher) since data have been available, beginning in 1984 for 23- to 26-year-olds and in 1988 for 27- to 30-year-olds. After 1999 and 2001 for the two groups, respectively, LSD use dropped, substantially narrowing the gender differences. Males began to show these declines first, and both genders have moved to almost no use since about 2003.

- ***Ecstasy*** (***MDMA***) exhibited little or no gender difference in any of the three age bands before use began to grow in the late 1990s. Even since then, among 19- to 22-year-olds there has been little gender difference, except that use among males started to decline one year ahead of use among females. In 2010 males have an annual prevalence of 6.1% and females 4.1%, indicating a little divergence emerging. But in the older age groups a gender difference did open up after 1997, with males fairly consistently having higher rates of use among both 23- to 26-year-olds and 27- to 30-year-olds. By 2010 only a modest gender difference remained among the two older age bands as a result of greater declines among males.

- Males have had higher rates of ***cocaine*** use than females since MTF began. During the period of sharp decline from the peak levels in annual cocaine prevalence (1986–1993), use dropped more among males than females, narrowing the gender differences that

existed. In the 19- to 22-year-old age band, annual prevalence for males declined by 16 percentage points (to 4.5%) versus 13 percentage points among females (to 2.8%) in 1993. In the 23- to 26-year-old age band, there was also a narrowing of the gender difference between 1986 and 1993, with annual prevalence down 19 percentage points among males (to 6.9%) and 13 percentage points among females (to 4.2%). Use in the 27- to 30-year-old group also dropped faster among males between 1988 (when data were first available) and 1997—down 13 percentage points versus 7 among females. In sum, during the period of sharp decline in overall cocaine use, the gender differences—which had been fairly large—narrowed considerably in all three of these age bands. During the resurgence in cocaine use of the 1990s and into the early 2000s, which has occurred on a somewhat staggered basis over the years, the gap between genders expanded only slightly.

- ***Crack*** followed a similar pattern during the earlier period of decline, though the proportional difference between the two genders has consistently been higher than for cocaine overall. With crack, though, there was some gender convergence (between 1992 and 1998) among 19- to 22-year-olds, as use among males declined slightly and use among females rose gradually. Since 1999, there has been no consistent change in differences between males and females. In the two older age bands, males consistently had slightly higher crack usage rates, at least until a decline among males in recent years diminished the difference and virtually eliminated the difference among 27- to 30-year -olds.

- As ***sedative*** (***barbiturate***) use declined through the 1980s, the modest gender differences (males were higher) were virtually eliminated in all three age bands. Beginning in the early 1990s, a staggered increase in use by both genders emerged across all three age groups, with males increasing more than females, thereby again opening a small difference in the late 1990s and 2000s. After declines in the past couple of years, the differences have essentially been eliminated.

- During the period from 1982 through about 1994, there was little gender difference in annual prevalence for ***heroin*** use. (By 2008, the small gender difference that had existed in the oldest age band had disappeared.) After 1994, use increased some, particularly among the younger groups, with males generally attaining slightly higher rates than females. In 2008 and 2009 some increase in use among males in the younger two age bands enlarged the gender differences in heroin use rates.

- Among 19- to 22-year-olds, both genders showed some decline in their use of ***narcotics other than heroin*** between 1980 and 1991, with a near elimination of previous gender differences (males had been higher). Beginning in 1994, use by males began to rise in this age group, while use by females began to rise a year later. Some gender differences have developed as use has increased, with males at 9.4% and females at 8.1% in 2010 The picture for 23- to 26-year-olds is very similar: the gender difference (males higher) had been eliminated by 1988, but re-emerged after 1995 as use increased more among males. Among 27- to 30-year-olds, there has been a smaller gender difference and the

least increase in use in the 2000s. Still, use has increased for both genders since 1999, with males emerging with modestly higher rates of use.

- Since 2002, the first year for which ***OxyContin*** data are available, the use of OxyContin has generally been higher among males than females for all three age bands. The only exception was a crossover due to a sharp increase among 23- to 26-year-old females in 2009 (an increase of 3.9 percentage points, which did not hold in 2010). Both genders have shown some increase in use since 2002. ***Vicodin*** use also has been consistently higher among males, and there has been an increase in use among both males and females in the top age band. The other two age bands have not shown consistent changes.

- In general, there have been no appreciable gender differences in ***amphetamine*** use for some years in any of these three age bands. Between 1981 and 1991, rates of amphetamine use were similar for males and females and showed substantial and parallel downward trends for both genders. Among 19- to 22-year-olds, annual prevalence of use dropped 22 percentage points for males (to 5.2% in 1991) and 21 percentage points for females (to 4.7% in 1991). There were small increases in annual prevalence for both genders in the 19- to 22-year-old age group after 1991, in the 23- to 26-year-old age group after 1995, and in the 27- to 30-year-old age band after 2000, but the genders diverged only slightly (with males higher); use has leveled in all three age bands since the mid-2000s. Nonmedical use of ***Ritalin***, a prescription amphetamine added to MTF questionnaires in 2002, has generally been slightly higher among males than females.

- ***Crystal methamphetamine*** (***ice***) was added to the study's coverage in 1990. In the early 1990s, use was low and very similar for both genders in all three young adult age bands. More of the increase in use that occurred in the mid-1990s in the younger two age bands occurred among males—opening a gender gap. The gap then narrowed, though males on average were slightly more likely to report use of crystal methamphetamine until 2005. Since 2009, the gender differences have been small, except that among 23- to 26-year-olds use by females has dropped to near zero, opening some difference there. It should be noted that the estimates are a bit unstable for this drug due to limited sample sizes.

- For ***tranquilizers***, both genders showed a long, gradual decline (and very similar rates of use) from 1980 through about 1993 in all three age bands. Beginning in 1995, use increased for both genders in the 19- to 22-year-old group, followed by an increase beginning after 1997 among 23- to 26-year-olds and after 1999 among 27- to 30-year-olds, again reflecting cohort effects driven by generational replacement. Some gender difference emerged during these periods of increase and subsequent decrease after 2002 and 2003 for the lower two age bands. Males generally reported somewhat higher usage rates, though the differences have narrowed in the past year or two.

- ***Inhalant*** use has generally been quite a bit higher among males than females, particularly in the younger age groups. The 19- to 22-year-old group showed a gradual upward shift from 1980 to 1988, followed by a leveling for some years for both genders. In 1997, female inhalant use began to decline among 19- to 22-year-olds, followed by males in 2001; however, the gender gap did not diminish much with this decline until 2005, when

there was a convergence. Among 23- to 26-year-olds the gender gap widened as use by males increased between 1992 and 1999, though a subsequent decline in use among males narrowed the gap, almost eliminating it by 2005. It then re-emerged by 2008. In the oldest age stratum, use among males has consistently been slightly higher, though the prevalence of inhalant use is very low by this age.

- Use of three "club drugs"—***GHB***, ***ketamine***, and ***Rohypnol***—has tended to be a bit more concentrated among males in all three age strata. However, the estimates are not very stable because of the limited numbers of cases upon which they are based. In 2009, prevalence rates were very low for all three drugs, and gender differences were small. Rohypnol was dropped from the study in 2010 because of the low numbers of users.

- For ***alcohol***, 30-day prevalence rates exhibited a gradual, parallel decline from 1981 through 1992 for both genders in the 19- to 22-year-old age group. Thirty-day prevalence fell from 83% to 72% among males and from 75% to 62% among females by 1992. In the two older age bands, there also was a modest, parallel decline for both genders, from 1985 through 1992 in the case of 23- to 26-year-olds, and at least from 1988 (when data were first available) to 1991 or 1992 in the case of 27- to 30-year-olds. Since 1992, both genders in the older two age bands have shown fairly level rates of use, with males somewhat higher, though female use has risen gradually, narrowing the difference somewhat. However, among 19- to 22-year-olds there has been a convergence, because use by males has declined slightly while use by females increased slightly through 2008, before dropping a bit. The increasing proportion of women attending college may explain this convergence at least in part.

  There was also a general long-term decline in ***daily drinking*** from about 1981 or 1982 through about 1992, with daily use falling more among males, considerably reducing, but far from eliminating, what had been a large gender difference among 19- to 22-year-olds. To illustrate, in 1981, 11.8% of males reported daily use versus 4.0% of females; the comparable 1992 statistics were 5.3% and 2.7%. After 1995, daily drinking began to increase among 19- to 22-year-olds for both genders, but leveled a few years later. From 2002 to 2005 daily use was rising among males and falling among females, increasing their differences, but since 2005 there has been a considerable convergence with daily use among males falling and use among females increasing modestly. There was still a gender difference for daily drinking among the 19- to 22-year-old age group in 2010—5.5% for males versus 2.1% for females—but not nearly as large as it had been in 1981 (11.8% vs. 4.0%). The gender differences have been larger for the older age groups with little sign of convergence. In 2010 daily drinking was 9.0% for males vs. 3.8% for females among 27- to 30-year-olds.

  There are also long-established and large gender differences in all age groups in the prevalence of ***occasions of heavy drinking***. Males in the 19- to 22-year-old band showed some longer term decline in this statistic, from 54% in 1986 to 45% in 1995, as female use remained steady, thus narrowing the gender gap (from 24 percentage points in 1986 to 17 percentage points in 1995). Between 1995 and 2006, binge drinking among 19- to 22-year-old females drifted upward from 28% to 34%, but has since declined to 28%.

Among males it held fairly steady through 2007 before declining, narrowing the difference some. In the two older age bands (23- to 26-year-olds and 27- to 30-year-olds), the sizable gender differences have been mostly stable as the binge drinking rates have drifted steadily upward in both genders since the early 1990s. To illustrate, among 23- to 26-year-olds, the binge drinking rate among females rose from 22% in 1995 to 33% in 2009, while among males it rose from 44% in 1994 to 53% in 2009. Both genders then showed some decline in 2010. (The increases observed among 27- to 30-year-olds beginning after 2000 continued into 2010; the gender difference has been substantial throughout.) The sustained increase for 23- to 26-year-olds is striking, and may be due at least in part to the increased rate of college attendance and decreased rate of marriage among this age group.

- Most striking for ***cigarette smoking*** are the similarities between the genders in both absolute levels and trends. All three age groups showed a long-term decline in ***daily smoking*** rates for both males and females after data were first available for each: 19- to 22-year-olds from 1980 to 1990, 23- to 26-year-olds from 1984 to 1992, and 27- to 30-year-olds from 1988 to 1999—again reflecting a cohort effect moving up the age scale. Male and female ***30-day smoking*** rates have also been very close over most of the time for which data are available, particularly in the two older age groups. But among 19- to 22-year-olds there was a crossover after 1993—before that point, females had slightly higher 30-day prevalence rates, but after that males did from 1994 on. Both genders have shown a considerable decline since 1999. Among 23- to 26-year-olds, the genders had very similar smoking rates until males started reporting higher 30-day smoking rates from 1998 on. Males have shown almost no decline since 1998, but females in this age band have shown some, opening up a modest gap. In the oldest age band, the two genders were quite close until males opened the gap in 2002, and their rate has generally remained somewhat higher since; in fact, the gap has widened some as use among females has declined some since 2005 while use among males has not. In 2010 the rates were 28% among males and 20% among females.

Regional Differences in Trends

The respondent's current state of residence was first asked in the 1987 follow-up survey; thus trend data by region exist only for the interval since then. In this case, changes have been examined for all 19- to 28-year-olds combined to increase estimate reliability. Because gender, for example, crosscuts all regions, it has less sampling error than when the sample is divided into four separate regions. (Each region is represented by between 1,000 and 2,200 cases in all years.) By combining across all ages, we lose the ability to see the cohort effects that have occurred with many drugs, but we are able to see whether overall trends are similar across regions. In general, the changes that have occurred since 1987 have been fairly consistent across regions, particularly in terms of the direction of change. The four regions of the country—Northeast, Midwest, South, and West—have generally moved in parallel.

- There were substantial drops among young adults in all four regions between 1987 (the initial measurement point) and 1991 for ***any illicit drug***, ***marijuana***, ***any illicit drug other than marijuana***, ***cocaine***, ***crack***, and ***amphetamines***. Since 1991, most or all regions showed some increase and then a leveling in the use of these drugs (except

cocaine, which continued to decline through the mid-1990s, inched up thereafter, and then remained fairly level since 2004).

The proportions of 19- to 28-year-olds using ***any illicit drug*** have been consistently lowest in the South and highest in the West and Northeast. For ***marijuana*** use, the South has usually been lowest, and for the most part the Midwest has been second lowest. Generally, the other two regions have been fairly close to one another. For the use of ***any illicit drug other than marijuana***, the West stood out as consistently highest, with the other three regions being very similar, at least until 2000; since 2001, use in the Northeast generally has been about as high as in the West, though the regional differences are not large.

- From 1987, the first data point, through 2001 the West had the highest level of lifetime prevalence for ***LSD***. From 1991 through 1995, the West had slightly higher annual prevalence rates of LSD use than the other three regions among young adults (use dropped in 1995 in the West). Otherwise the usage rates have been quite similar in all four regions; all showed sharp declines in LSD use after 2001, though use had been declining some in all regions for several years prior to that**.**

- Questions about ***ecstasy*** (***MDMA***) were added to the follow-up surveys of young adults in 1989. Through 1993, rates were highest in the West and South and lower in the Northeast and Midwest regions. Subsequently, use in the Northeast began to increase (as was true among 12th graders), exceeding levels of use found in the South and West from 1999 to 2001. The Midwest has consistently had a much lower level of ecstasy use than the other three regions. In 2000 all four regions showed a sharp and fairly parallel increase in ecstasy use; the rise decelerated in 2001 and began to decline thereafter in all regions. As discussed elsewhere, we believe that this decrease may be caused by growing concern about the hazards of ecstasy use. By 2003, little regional difference remained in annual prevalence, largely because the declines in use were most pronounced in the Northeast and West. By 2007, use was down a little more in all regions; but in 2008 ecstasy use increased some in three of the four regions, and since then it has continued to increase in the West, but not the other three regions, thereby opening a regional difference.

- The considerable declines in ***cocaine*** use, observed in all regions between 1987 and 1991, were greatest in the two regions that had attained the highest levels of use by the mid-1980s—the West and Northeast. Thus, regional differences had diminished considerably by 1992. Similar to the finding for 12th graders, in 1992 the decline in annual prevalence stalled in all regions except the Northeast. A gradual further decline then occurred in all regions through 1996 (1997 for the West) before a slight rise began to occur, likely reflecting the effects of generational replacement. Regional variability in annual cocaine prevalence was minimal for some years after the mid-1990s, but since 2005, use in the West and Northeast has grown higher than the Midwest and South, because the latter two regions have shown more decline in use.

- All four regions also exhibited an appreciable drop in ***crack*** use between 1987 and 1991, again with the greatest declines in the West and Northeast, where prevalence had been the highest. Use then generally leveled in all regions except the South, where it continued a gradual decline through 1997. As was true for cocaine generally, annual prevalence rates among the regions have converged; they now stand between 0.4% in the Midwest and 0.6% in the South, West, and Northeast. (Lifetime prevalence of crack use generally has been highest in the West since crack use was first measured in 1987, as is true for cocaine in general.)

- From 1987 (when data were first available) through 1994, rates of ***inhalant*** use remained relatively stable, quite low, and about equal in all four regions among 19- to 28-year-olds. Annual use then rose in the Northeast in 1995 and 1996 and remained higher than in the other regions through 2000, when it dropped back to rates comparable to the other three regions. Except for that divergence, the regions have moved very much in parallel for this class of drugs. Annual prevalence in 2010 is at low levels in this age group, ranging between 1.0% and 2.0%.

- The regions have trended fairly similarly in their prevalence of ***amphetamine*** use by young adults. The only modest exception was that use declined more in the Northeast (which started out lowest) in the period 1987 to 1992, giving it a substantially lower rate than the other three regions; it remained lowest until 1998. The West has fairly consistently had the highest rate, but not by much, at least until 2006. By the late 1990s, the Northeast had caught up to the Midwest and South, making the regional differences very small; there have been essentially no regional differences since 2000. In 2010 the annual prevalence rate ranged between 5.8% in the West and 7.7% in the Northeast.

- ***Methamphetamine*** use has been measured only since 1999 (though crystal methamphetamine, discussed next, has been in the study for a longer time). It shows some differences in rates among the regions and some differential trending, with a gradual decline in annual prevalence in the Northeast (where use has generally been lowest) and a gradual increase in the West (where use has usually been highest) from 2000–2004, after which use declined in the West. Use in the other two regions remained fairly flat until 2006, when both showed some decline. Use in the West has fallen since 2006, leaving very little variability among regions by 2010. (Lifetime prevalence reached particularly high levels in the West, starting at 16% in 1999, and declining fairly steadily to 5% in 2010.)

- The West has also consistently had the highest rates for ***crystal methamphetamine*** (***ice***) use, and the regional differences have been very substantial, particularly in terms of lifetime use. The Northeast has generally had the lowest rates. When data were first available on crystal methamphetamine in 1990, the West had a lifetime prevalence of 5.1% versus a range of 1.7% to 2.3% in the other three regions. By 2006, the lifetime prevalence rate in the West had increased to 8.8%, and lifetime prevalence in the Midwest and South grew quite steadily over that interval. This strongly suggests that crystal methamphetamine use among young adults diffused from the West primarily to the South and Midwest regions, but diffused much less to the Northeast, which has had

the lowest prevalence since 1998. The annual prevalence figures tell a similar story, but also show that there was a spike in past-year use in the West from 1991 to 1995 before use there declined and then stabilized at around 2% from 1997 through 2001. Rates then rose again in the West between 2001 and 2003 and stabilized at a higher level around 2.7%. Since 2006, use in the West declined, narrowing the differences with the other regions. In 2010, annual use of crystal methamphetamine stands between 0.1% in the Northeast and 0.8% in the West.

- The annual prevalence for ***sedatives*** (***barbiturates***) remained flat, and at about equivalent levels, in all four regions of the country from 1987 through 1994. Rates then rose gradually in all regions for a number of years, followed by some leveling; regional differences have been consistently small. In 2010 annual prevalence ranged from 2.8% in the Midwest to 3.9% in the South.

- The picture for ***tranquilizers*** is similar to that for sedatives (barbiturates). Annual prevalence generally held fairly steady in all regions from 1987 through 1993. Since then there has been some increase in all regions, with the South experiencing the most increase through 2004, after which all regions showed a leveling in use. The regional differences have been small, though the South has tended to have a slightly higher rate, and this difference grew a bit larger during the period of increasing use in the late 1990s.

- Levels and trends in ***heroin*** use have been quite comparable across the four regions since 1987 until recently. All regions had low and stable rates through the early 1990s. A gradual increase was observed from about 1993 through 2000, and annual prevalence was fairly stable in all regions through roughly 2004. Since then there has been a steady increase in the Northeast from 0.4% in 2004 to 1.1% in 2009, and also an increase in the West, from 0.3% in 2004 to 0.8% in 2009. The South and Midwest have not shown much evidence of increase.

- Trends in prevalence of the use of ***narcotics other than heroin*** have also been quite parallel for the four regions. After a period of slight decline between 1987 and 1993 in all regions, a gradual, long-term, and substantial increase occurred from the mid-1990s through 2003 or 2004, depending on the region, with little systematic change thereafter. The South has tended to have the lowest rate in recent years, with the other three regions being tightly grouped.

- The annual prevalence of ***OxyContin*** use was highest in the Northeast and lowest in the West in 2002, when it was first measured. Use has risen some in all regions since 2002, but regional differences have not appeared very consistent because of the limited sample sizes.

- Annual prevalence of use for ***Vicodin*** has shown some variation among the regions. The West and Midwest have generally had the highest rates, with the South the lowest and the Northeast in between. There has been little net change between 2002 and 2010 in the annual prevalence in each region, but use patterns in the interim appear to be a little different for each region. (It should be noted that the sample sizes are more limited than

usual for Vicodin and OxyContin because questions about their use are contained on only two of the six questionnaire forms. As a result, the trends are more difficult to discern with certainty.)

- When two club drugs, ***ketamine*** and ***GHB***, were first measured in 2002, the Northeast stood out as having a higher rate of annual use (especially so for ketamine); but use in the Northeast dropped over the next two years, bringing that region's usage rates down to the same very low levels as the other three regions. There appears to have been a little resurgence of ketamine use since 2007 in all regions except the Midwest; but no region has an annual prevalence above 1.2%. ***Rohypnol*** use has remained very low in all four regions over the same interval, not reaching 1% in any region. For this reason, questions about rohypnol use were dropped from the questionnaires in 2010 to make room for other drugs.

- With respect to ***alcohol*** use, there were modest declines in 30-day prevalence in all four regions between 1987 (when the first measurement was available for 19- to 28-year-olds) and 1992. The rates for 30-day prevalence then leveled in all regions. The West and South have consistently had lower rates of 30-day use than the Northeast and Midwest (as has generally been true among 12th graders).

  Current ***daily use*** of alcohol also showed a decline from the first (1987) data collection through about 1994 or 1995 in all regions. The proportional declines were substantial—on the order of 40–50%. (This decline corresponds to a period of appreciable decline in daily drinking among 12th graders, though we can tell from their longer term data that their decline started in 1980; thus the decline may well have begun earlier among 19- to 28-year-olds as well.) Since the mid-1990s there has been some upward trending in daily prevalence in all regions; and in 2009 the rates all converged to between 5.3% and 5.5%, followed by some decline in all four regions in 2010. ***Occasions of heavy drinking*** (or "binge drinking") was fairly level in all regions between 1987 and the late 1990s or early 2000s. There were then some modest increases through about 2006, followed by a leveling and even a slight decline, particularly in the West. The rates have consistently been appreciably higher in the Northeast (42% in 2010) and Midwest (41%) than in the West (34%) and South (30%).

- There have been highly consistent regional differences among young adults in ***cigarette smoking*** since data were first available in 1987—they exist for monthly, daily, and half-pack-daily prevalence rates. The West has consistently had the lowest rates (e.g., 10% daily prevalence in 2010, compared to 16–17% in the other three regions) and the Northeast and Midwest a little higher than in the South. After some slight decline in 30-day prevalence in all regions between 1987 and 1989, rates leveled off for about five years (roughly through 1994). There then followed a very gradual increase of a few percentage points through 1998, followed by a gradual decrease. ***Daily use*** showed a very similar pattern. For half-pack-a-day smoking, the decline phase was longer (from 1987 through about 1992 or 1993), likely reflecting the lag between smoking initiation and regular heavy smoking. Since 1998, half-pack smoking rates have gradually declined in all four regions. In accumulation, the gradual declines in daily smoking have been

important. Between 2004 and 2010, daily prevalence fell among young adults from 23% to 16% in the Northeast, 24% to 17% in the Midwest, 20% to 16% in the South, and 16% to 10% in the West. In general, all of these measures have shown parallel movements across regions, suggesting that the forces accounting for whatever changes there have been are nationwide in scope. It should be remembered that, as illustrated earlier in this chapter, there are strong cohort effects in smoking that are obscured to a considerable degree when we combine age groups across a 10-year age span, as we have done in the present analyses.

Population Density Differences in Trends

The analyses presented here for population density return to the use of four-year age groupings, which allows a longer time interval to be examined for the younger strata and for cross-age comparisons of the trends. Among young adults, five levels of population density are distinguished based on the respondent's answer to the question, "During March of this year did you live mostly . . ."; answer alternatives were in a very large city (over 500,000 people), in a large city (100,000 to 500,000), in a medium-sized city (50,000 to 100,000), in a small city or town (under 50,000), or on a farm/in the country? Suburbs of cities of each size were combined with the city.

- The proportions of young adults using ***any illicit drug*** have moved in parallel among the various community-size strata. In general, the farm/country stratum has tended to have the lowest use. The other four community-size strata have tended to differ little from one another, though the very large cities have generally ranked at the top. In 2010, the proportions of 19- to 22-year-olds reporting use of an illicit drug in the past year were 20% for the farm/country stratum, 35% for small towns, 37% for medium-sized cities, 39% for large-sized cities, and 40% for very large cities. (Estimates for the farm/country stratum fluctuated widely in the past couple of years.)

- Trends in the use of ***any illicit drug other than marijuana*** tell a similar story. There was a long period of fairly parallel declines along with some convergence of usage rates among the community-size strata at all three age levels (among 19- to 22-year-olds it was between 1981 and 1992) followed by an increase in use and more recently a leveling. In general, medium, large, and very large cities have all tended to have about the same rates, and the farm/country stratum has tended to have the lowest rates, particularly prior to 1990; the differences by population density have been quite small since about 2000, ranging from 19% to 20% across the different community-size strata among 19- to 22-year-olds in 2010 (except for the farm/country stratum which stood at 12%), for example. The inflection points in these longer-term trends have been somewhat staggered across the different age strata, indicating some cohort effects.

- ***Marijuana*** use has moved pretty much in parallel among the various community-size strata over the time intervals for which data exist. Among 19- to 22-year-olds, the annual prevalence rates have been quite close among all communities, except for the farm/country stratum. The most rural stratum has fairly consistently had the lowest rate of marijuana use, and it fell less in the decline period and rose more slowly in the subsequent increase than in the other community-size strata. Use has also tended to be

lower in the more rural areas in the older two age bands. ***Daily marijuana use*** has also moved in parallel among the five population-density strata within each age band for the most part. In the past two to three years, however, there has been some upward trending in marijuana use among the 19- to 22-year-olds in the three urban strata.

- In general, there have not been large differences in ***LSD*** use among young adults as a function of community size since 1983. Among 19- to 22-year-olds (the young adult age group with by far the highest rates of LSD use prior to 2003), use in communities of all sizes declined appreciably in the early to mid-1980s, particularly in the urban strata, eliminating modest prior differences by 1984. From around 1989 through 1996, there was some increase in LSD use in all population-density strata among 19- to 22-year-olds, with the most rural region generally continuing to have the lowest prevalence. After 1997, there was some decline in LSD use in all community-size strata among 19- to 22-year-olds, followed by a sharp decline occurring from 2001 to 2003. The 23- to 26-year-old respondents had some modest increases after 1989 in all community-size strata, though the increases had virtually ended by 1995; since about 1999, there have been declines in all strata, with the largest decline in 2001–2003 in most strata. In *Volume I* in this series, we discussed how a sharp decline in supply may be responsible for the sizable decline in use among all ages after 2001. In the oldest age group, LSD use has remained very low and for the most part quite stable, but also with some decline after 2001.

- The use of ***hallucinogens other than LSD***, taken as a class, has also shown considerably higher rates in the youngest age band compared to the two older ones, suggesting a sharp falloff in use with age. (The drug most often reported in this general class has been psilocybin or "shrooms," as is true among 12th graders as well.) Use of this general class of drugs fell in communities of all sizes among young adults between 1980 and about 1988. Then there was a leveling of use for a few years, followed by an extended increase in use among all community-size strata in the 19- to 22-year-old age band. By 2003 the rates attained by each stratum exceeded those originally observed in 1980; there have been declines since then, and very large cities (which had attained the highest usage rates) were the last to show the decline. The 23- to 26-year-old group showed slightly rising rates of use between 1998 and 2004, followed by a leveling. The sharpest increase occurred in the very large cities in 1999 and 2000, possibly as a result of growing ecstasy use. The 27- to 30-year-olds have generally had low rates of use, and the trend lines have been very flat with only minor community-size stratum differences, until 2001 when all strata, especially the very large cities, began to increase before leveling after 2005. All three age groups have shown higher rates of use than previously observed—since 1994 for 19- to 21-year-olds, since about 2000 for 22- to 26-year-olds, and since about 2002 for 27- to 30-year-olds—in part reflecting a cohort effect in the use of these drugs, but also reflecting the change in question wording to include "shrooms" as an example.

- ***Ecstasy*** (***MDMA***) use was first measured in 1989, and since then has shown the largest increase among young adults of any drug. Use in 1989 was highest among 19- to 22-year-olds in the very large cities (5% annual prevalence); but prevalence declined in all population-density strata between 1989 and 1994 (to 1.6% or less). By 1998, use had begun to increase in all community-size strata within this age band, except in the

farm/country stratum. The farm/country stratum moved up sharply in 1999, but then the three most urban strata jumped sharply in 2000, opening a fair gap in use, with large and very large cities having rates nearly twice as high as any of the other strata in 2002. All community-size strata showed large declines in ecstasy use since 2000 or 2001, which lasted through 2004, narrowing the differences among them. Among 23- to 26-year-olds, use began to increase a little later, and again the most urban stratum showed the most increase, particularly in 2000; but use began to decline after 2001 (in the urban areas) or 2002 (in the rural and small town strata), which had the effect of narrowing the differences among strata. All population-density strata have continued to decline, or at least remain level, since 2003 among the 23- to 26-year-olds. Considerably less increase in ecstasy use occurred among 27- to 30-year-olds, though there was some increase in the largest cities starting after 1996 and in the large and medium-sized cities after 1999. From 1997 through 2005 the very large cities stood out as having the highest rates of ecstasy use, but the differences were modest in 2010. The medium size cities had the highest rate of the five strata in both 2009 and 2010 among the 23- to 26-year-olds.

Ecstasy use trends in the past several years tell an interesting story. In the very large cities, where use had spiked early, use peaked in all three age bands in 2000 and then began to decline. The medium-sized cities were beginning to level or decline by 2001 in the two younger age bands. The small town and farm/country strata peaked in 2001 in all age groups. These data support our belief, based on school-level analyses of secondary schools, that the presence of this drug was still diffusing geographically—in this case, from more urban to more rural areas—and, were it not for this continued diffusion, ecstasy use would actually have begun to decline nationally a year earlier. The data from 12th graders on perceived risk provide the clue as to the most likely cause of this turnaround; they showed a large jump in the level of perceived risk associated with ecstasy use from 2000 through 2003. Unlike most other drugs discussed here, the pattern of change since the mid-1990s appears to reflect secular trends, with all age groups moving pretty much in parallel, more than cohort effects.

- In the early 1980s, ***cocaine*** use was positively correlated with population density, with the highest use in the very large cities. The important drop in cocaine use that began after 1986 slowed considerably after 1992 or 1993 in all three age strata and in communities of all sizes, by which time the positive association with population density had been virtually eliminated. Among 19- to 22-year-olds there was a sustained increase in cocaine use among all community-size strata after about 1993 or 1994, and among 23- to 26-year-olds after about 1998. There was some decline in the mid-2000s in all strata except large cities, which have shown a decline in more recent years. As just stated, usage rates among the population-density strata tended to converge considerably during the period of decline; this convergence remains, except for the very large cities, which since 2007 have shown rates of cocaine use higher than the less densely populated areas among 23- to 26-year-olds. In the 27- to 30-year-old age group, a gradual increase in use emerged in nearly all population-density strata after 2000, no doubt reflecting a cohort effect working its way up the age spectrum. By 2004, all of these strata in the oldest age band leveled or declined from their peak rates; the single exception was very large cities, where use remained relatively high until 2010, when it declined a bit.

- ***Crack*** use among all age groups peaked in 1987 or 1988 (strongly suggesting a secular trend at work at that time) and then, after declining appreciably, bottomed out in all population-density strata for several years. Use reported in these young adult samples at all three age levels has borne practically no systematic association with community size, and for the most part the strata have all tended to move in parallel. In 2010, use is highest across all age strata in the medium-sized cities, but annual prevalence is at or below 1% across all strata in all age groups.

- ***Amphetamine*** use shows virtually no differences associated with urbanicity in any of the three age groups, and this has generally been true since 1983. The trend curves were highly similar for all levels of population density within each age stratum.

- Differences in use of ***crystal methamphetamine*** (***ice***) as a function of population density are highly erratic across time in all four age groups, suggesting that there is no important systematic variation by population density.

- The use of ***methamphetamine*** in any form has been measured only since 1999. In general, the farm/country stratum has had higher than average rates of use in the two youngest age groups; otherwise there has been little systematic difference. Among 19- to 22-year-olds, all community-size strata have shown a substantial decline in use since 2003 or 2004, reaching very low levels by 2007. Use has declined some over the same interval among 23- to 26-year-olds, while it has generally declined in all population-density strata since 2002 among 27- to 30-year-olds.

- ***Methaqualone*** use, which in 1981 was strongly positively associated with population density, dropped to annual prevalence rates of 0.8% or below in all community-size strata for all three age bands by 1989. For that reason, its use is no longer measured in MTF.

- Unlike methaqualone, ***sedatives*** (***barbiturates***) have never shown much correlation with urbanicity, at least as far back as 1980. This remains true in all three age bands, and the trends have been similar within each age band.

- ***Tranquilizer*** use among young adults has also had little or no association with population density over this time interval. Like sedatives (barbiturates), there was an earlier period of decline, staggered inflection points, a long period of gradual increase, and then a leveling staggered up the age band from about 2003–2005.

- From 1980 to 1995, annual ***heroin*** prevalence was less than 1.0%—usually much less—in all population-density strata for all three age bands. After 1994, use among 19- to 22-year-olds in all community-size strata rose and reached 1.0% in the three most urban strata by 1998. In fact, in the very large cities, it reached 2.1% in 2000 (vs. 0.3–0.6% in the other strata). Use levels have been lower among 23- to 26-year-olds and lower still among 27- to 30-year-olds, making it difficult to discern systematic differences among the population-density strata in those age bands. In 2010 the annual prevalence of heroin is 1.1% or lower in all community-size strata in all three young adult age bands, and it is much lower in most.

- The annual use of ***narcotics other than heroin*** had some positive association with population density among 19- to 22-year-olds through the early 1990s; however, it has shown rather little association since then. Use of narcotics other than heroin has increased substantially in all community-size strata since 1993 in the case of 19- to 22-year-olds, since about 1996 in the case of 23- to 26-year-olds, and since about 1998 in the case of 27- to 30-year-olds; however, no systematic differentiation by community size has been evident. Clearly a cohort effect is at work, and the increasing use of these drugs was quite widespread. Use tended to level off since about 2004 in the youngest age band, 2006 in the middle age band, and 2007 in the oldest age band.

- Unfortunately, sample sizes for two of the narcotic drugs of particular interest, ***OxyContin*** and ***Vicodin***, are not sufficient to estimate population-density differences or trends with a reasonable degree of accuracy.

- The absolute levels of ***inhalant*** use have remained low in these age groups, particularly above age 22. However, during the mid- to late 1980s, there was a gradual increase in use among 19- to 22-year-olds in all community-size strata. No strong or consistent association with population density has appeared, though the very large cities have not infrequently had higher rates than the other areas among 19- to 22-year-olds, particularly in the period 1998 through 2000. Among 19- to 22-year-olds, there has been some falloff in inhalant use since the late 1990s in all population-density strata.

- There have been few differences as a function of population density in the 30-day prevalence of drinking ***alcohol*** among 19- to 22-year-olds since data were first available in 1980, except that the farm/country stratum has tended to have lower-than-average use. In the two older age bands, however, there has been a fairly consistent positive correlation between population density and use of alcohol in the past 30 days—though not a very strong one. So, for example, in 2010 60% of 27- to 30-year-olds in the farm/country stratum have had alcohol in the prior 30 days, compared to 78% of those in very large cities. Trends have been fairly parallel for all strata in all age bands. There have also been no consistent trend differences in current ***daily drinking*** associated with urbanicity in any of the three age bands.

- For ***occasions of heavy drinking***, all community-size strata have been fairly close across time at all three age levels, with two exceptions: the farm/country stratum has fairly consistently shown a slightly lower rate of binge drinking in the youngest two age bands, and such drinking has tended to be highest in the very large cities in the two upper age bands. However, in the upper two age bands, the differences among the communities of different size have gradually expanded since about 2001, when there were practically no differences. So, for example, in 2010 among 23- to 26-year-olds, respondents in the farm/country stratum had 30% saying they engaged in occasions of heavy drinking, versus 47% in the very large cities.

- ***Cigarette smoking*** has generally been negatively associated with population density in all three age strata, without much evidence of differential trends related to population density, with one exception. Among 19- to 22-year-olds, all smoking prevalence

measures rose from 1997 through 1999 in the farm/country and small town strata, while in most other strata they remained level. The differences in 1999 were most striking for half-pack-a-day smoking among the 19- to 22-year-olds—24% for farm/country, 19% for small town, 15% for both medium-sized and large cities, and 10% for very large cities—compared with 1985, when there was virtually no difference in half-pack-a-day smoking rates among these strata (all were at 18% or 19%). Thus, smoking among those in their early 20s has become more concentrated in the nonurban populations. Among the two older age groups, the farm/country stratum has been highest more often than not, but in general the rates do not differ greatly. Among 19- to 22-year-olds, there has been a decline in 30-day prevalence in most population density strata since about 2000 or 2001, and among 23- to 26-year-olds since 2005. Continuing declines in smoking among 12th graders would lead us to predict still further declines among young adults, as well.

TABLE 5-1
Trends in Lifetime Prevalence of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	
Any Illicit Drug[a]	70.5	69.9	67.9	66.4	64.5	62.2	60.2	59.6	57.5	57.4	56.4	56.7	57.0	57.4	58.2	58.1	59.0	60.2	60.5	60.4	59.7	59.8	59.3	59.3	58.4	-0.9
Any Illicit Drug[a] other than Marijuana	48.4	47.0	44.6	42.7	40.8	37.8	37.0	34.6	33.4	32.8	31.0	30.5	29.9	30.2	31.3	31.6	32.8	33.9	35.2	34.0	34.8	34.2	34.7	32.8	33.3	+0.6
Marijuana	66.5	66.0	63.8	62.8	60.2	58.6	56.4	55.9	53.7	53.6	53.5	53.8	54.4	54.6	55.1	55.7	56.8	57.2	57.4	57.0	56.7	56.7	55.9	56.0	55.9	-0.1
Inhalants[b]	12.3	12.7	12.6	13.2	12.5	13.4	13.5	14.1	13.2	14.5	14.1	14.1	14.2	14.2	14.3	12.8	12.4	12.2	11.6	10.3	10.9	9.1	9.5	8.9	7.9	-0.9
Nitrites[c]	2.6	6.9	6.2	—	1.9	1.4	1.2	1.3	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hallucinogens[d]	18.5	17.1	17.0	15.9	16.1	15.7	15.7	15.4	15.4	16.1	16.4	16.7	17.4	18.0	18.4	18.3	19.6	19.7	19.3	17.6	17.2	16.0	14.8	14.2	13.9	-0.4
LSD	14.6	13.7	13.8	12.7	13.5	13.5	13.8	13.6	13.8	14.5	15.0	15.0	15.7	16.2	16.4	16.0	15.1	14.6	13.4	11.2	10.1	9.6	8.1	7.3	7.2	-0.1
Hallucinogens other than LSD[d]	12.6	11.4	10.6	9.4	9.1	8.4	8.0	7.6	7.4	7.8	7.9	8.4	9.4	9.3	9.9	12.0	15.0	16.4	15.6	15.4	14.9	14.1	13.0	13.0	12.6	-0.4
PCP[e]	8.4	4.8	5.0	—	2.5	3.1	2.0	1.9	2.0	2.2	1.9	2.4	2.7	2.3	2.3	3.1	2.5	3.0	2.7	2.0	2.4	2.1	2.2	1.6	1.6	0.0
Ecstasy (MDMA)[f]	—	—	—	3.3	3.7	3.2	3.9	3.8	3.8	4.5	5.2	5.1	7.2	7.1	11.6	13.0	14.6	15.3	16.0	14.9	14.4	13.1	13.1	11.5	12.3	+0.8
Cocaine	32.0	29.3	28.2	25.8	23.7	21.0	19.5	16.9	15.2	13.7	12.9	12.0	12.3	12.8	12.7	13.1	13.5	14.7	15.2	14.3	15.2	14.7	14.8	13.9	13.6	-0.3
Crack[g]	—	6.3	6.9	6.1	5.1	4.8	5.1	4.3	4.4	3.8	3.9	3.6	3.8	4.3	4.6	4.7	4.3	4.7	4.2	4.1	4.4	3.9	4.3	3.3	3.6	+0.3
Other Cocaine[h]	—	28.2	25.2	25.4	22.1	19.8	18.4	15.1	13.9	12.4	11.9	11.3	11.5	11.8	11.7	12.1	12.8	13.5	14.4	13.3	14.4	14.0	13.9	13.5	13.1	-0.4
Heroin	1.3	1.3	1.1	1.0	0.9	0.9	0.9	0.9	0.8	1.1	1.3	1.3	1.6	1.7	1.8	2.0	1.8	1.9	1.9	1.7	1.9	1.6	1.9	1.6	1.8	+0.2
With a Needle[i]	—	—	—	—	—	—	—	—	—	0.4	0.4	0.3	0.4	0.6	0.4	0.6	0.4	0.5	0.4	0.6	0.6	0.5	0.5	0.5	0.8	+0.2
Without a Needle[i]	—	—	—	—	—	—	—	—	—	1.0	1.4	1.5	1.7	1.9	2.1	2.1	1.8	2.2	2.1	1.8	2.4	1.9	2.1	1.9	1.8	0.0
Narcotics other than Heroin[j,k]	10.7	10.6	9.8	9.6	9.4	9.3	8.9	8.1	8.2	9.0	8.3	9.2	9.1	9.5	10.0	11.5	13.9	16.8	17.6	17.8	18.7	18.8	19.5	18.5	19.0	+0.5
Amphetamines, Adj.[j,l]	32.3	30.8	28.8	25.3	24.4	22.4	20.2	18.7	17.1	16.6	15.3	14.6	14.3	14.1	15.0	15.0	14.8	15.2	15.9	14.6	15.6	15.3	14.6	14.9	16.1	+1.2
Methamphetamine[i]	—	—	—	—	—	—	—	—	—	—	—	—	—	8.8	9.3	9.0	9.1	8.9	9.0	8.3	7.3	6.7	6.3	4.7	4.3	-0.4
Crystal Meth. (Ice)[i]	—	—	—	—	2.5	2.9	2.2	2.7	2.5	2.1	3.1	2.5	3.4	3.3	3.9	4.0	4.1	4.7	4.7	4.4	4.7	3.7	3.6	3.4	2.8	-0.6

(Table continued on next page.)

TABLE 5-1 (cont.)
Trends in Lifetime Prevalence of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	
Sedatives (Barbiturates)[i]	11.1	9.7	8.9	7.9	8.7	8.2	7.4	6.5	6.4	6.7	6.6	6.5	6.9	7.4	8.1	7.8	8.0	8.7	9.7	10.0	9.5	9.8	10.6	9.5	8.6	-0.9
Sedatives, Adjusted[i,m]	16.7	15.0	13.2	12.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone[j]	13.1	11.6	9.7	8.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers[d,j]	17.6	16.5	15.1	13.5	12.9	11.8	11.3	10.5	9.9	9.7	9.3	8.6	9.6	9.6	10.5	11.9	13.4	13.8	14.9	14.5	15.0	14.5	15.8	13.8	14.3	+0.5
Alcohol[n]	94.8	94.9	94.8	94.5	94.3	94.1	93.4	92.1	91.2	91.6	91.2	90.7	90.6	90.2	90.7	89.9	90.2	89.3	89.4	89.1	88.9	87.9	88.4	87.9	87.5	-0.5
Been Drunk[o]	—	—	—	—	—	82.9	81.1	81.4	80.7	82.1	80.7	81.4	79.8	81.6	80.4	81.1	81.2	80.9	80.1	79.9	80.9	80.1	80.1	78.2	79.0	+0.8
Flavored Alcoholic Beverages[p]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	83.2	84.6	84.4	84.0	82.6	83.5	81.4	-2.0
Cigarettes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[q]	—	—	—	1.1	1.2	1.7	1.9	1.5	1.3	1.5	1.5	1.4	1.4	1.9	1.4	1.4	1.6	1.8	1.9	1.8	1.8	1.7	1.8	1.8	1.7	-0.1

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

' — ' indicates data not available.

See footnotes on next page.

Footnotes for Tables 5-1 through 5-4

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), methaqualone (until 1990), or tranquilizers not under a doctor's orders.

[b]This drug was asked about in four of the five questionnaire forms in 1986–1989; *N* is four fifths of *N* indicated. Data were based on five of the six questionnaire forms in 1990–1998; *N* is five sixths of *N* indicated. Data were based on three of six questionnaire forms in 1999–2010; *N* is three sixths of *N* indicated.

[c]This drug was asked about in one questionnaire form. *N* is one fifth of *N* indicated in 1986–1988 and one sixth of *N* indicated in 1990–1994.

[d]In 2001 the question text was changed on three of the six questionnaire forms. "Other psychedelics" was changed to "other hallucinogens," and "shrooms" was added to the list of examples. For tranquilizers, Miltown was replaced with Xanax. Beginning in 2002 the remaining forms were changed to the new wording.

[e]This drug was asked about in one of the five questionnaire forms in 1986–1988; *N* is one fifth of *N* indicated. Data were based on one of six questionnaire forms in 1990–2009; *N* is one sixth of *N* indicated.

[f]This drug was asked about in two of the five questionnnaire forms in 1989; *N* is two fifths of *N* indicated. Data were based on two of the six questionnaire forms in 1990–2001; *N* is two sixths of *N* indicated. Data were based on three of the six questionnaire forms in 2002–2010; *N* is three sixths of *N* indicated.

[g]This drug was asked about in two of the five questionnaire forms in 1987–1989; *N* is two fifths of *N* indicated. Data were based on all six questionnaire forms in 1990–2001. Data were based on five of six questionnaire forms in 2002–2010; *N* is five sixths of *N* indicated.

[h]This drug was asked about in one of the five questionnaire forms in 1987–1989; *N* is one fifth of *N* indicated. Data were based on four of the six questionnaire forms in 1990–2010; *N* is four sixths of *N* indicated.

[i]This drug was asked about in two of the six questionnaire forms; *N* is two sixths of *N* indicated.

[j]Only drug use that was not under a doctor's orders is included here.

[k]In 2002 the question text was changed on three of the six questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced by Vicodin, OxyContin, and Percocet. The 2002 data presented here are based on the changed forms only; *N* is three sixths of *N* indicated. In 2003 the remaining forms were changed to the new wording. The data are based on all forms in 2003 and beyond.

[l]Based on the data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription amphetamines.

[m]Sedatives, adjusted" data are a combination of barbiturate and methaqualone data.

[n]In 1993 and 1994, the question text was changed slightly in three of the six questionnaire forms to indicate that a "drink" meant "more than just a few sips." Because this revision resulted in rather little change in reported prevalence in the surveys of high school graduates, the data for all forms combined are used in order to provide the most reliable estimate of change. After 1994 the new question text was used in all six of the questionnaire forms.

[o]This drug was asked about in three of the six questionnaire forms;*N* is three sixths of *N* indicated.

[p]This drug was asked about in one of the six questionnaire forms;*N* is one sixth of *N* indicated.

[q]This drug was asked about in one of the five questionnaire forms in 1989;*N* is one fifth of *N* indicated. Data were based on two of the six questionnaire forms in 1990–2010; *N* is two sixths of *N* indicated.

[r]Daily use is defined as use on 20 or more occasions in the past 30 days except for cigarettes, measured as actual daily use, and 5+ drinks, measured as having five or more drinks in a row in the last two weeks.

TABLE 5-2
Trends in Annual Prevalence of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	
Any Illicit Drug[a]	41.9	39.3	36.3	32.8	30.7	27.0	28.3	28.4	28.4	29.8	29.2	29.2	29.9	30.3	30.8	32.1	32.4	33.0	33.7	32.8	32.1	32.5	33.8	33.3	33.2	-0.2
Any Illicit Drug[a] other than Marijuana	27.0	23.9	21.3	18.3	16.7	14.3	14.1	13.0	13.0	13.8	13.2	13.6	13.2	13.7	14.9	15.4	16.3	18.1	18.8	18.5	18.4	18.1	18.9	17.4	18.5	+1.1
Marijuana	36.5	34.8	31.8	29.0	26.1	23.8	25.2	25.1	25.5	26.5	27.0	26.8	27.4	27.6	27.9	29.2	29.3	29.0	29.2	28.2	27.7	28.5	28.6	29.3	28.7	-0.7
Inhalants[b]	1.9	2.1	1.8	1.9	1.9	2.0	1.9	2.1	2.1	2.4	2.2	2.3	2.1	2.3	2.1	1.7	1.6	1.4	1.7	1.3	1.3	0.8	1.4	0.9	1.2	+0.4
Nitrites[c]	2.0	1.3	1.0	—	0.4	0.2	0.1	0.4	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hallucinogens[d]	4.5	4.0	3.9	3.6	4.1	4.5	5.0	4.5	4.8	5.6	5.6	5.8	5.2	5.4	5.4	5.4	4.7	5.2	4.7	4.5	4.1	3.8	3.8	3.9	4.2	+0.3
LSD	3.0	2.9	2.9	2.7	3.3	3.8	4.3	3.8	4.0	4.6	4.5	4.4	3.5	4.0	3.7	3.4	1.8	1.2	0.9	0.8	1.2	1.1	1.4	1.7	1.5	-0.2
Hallucinogens other than LSD[d]	2.5	2.1	1.9	1.8	1.7	1.7	1.9	1.9	2.0	2.5	2.8	3.1	3.0	3.0	3.4	3.5	4.0	4.9	4.5	4.2	3.8	3.6	3.4	3.3	3.7	+0.4
PCP[e]	0.8	0.4	0.4	—	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.5	0.6	0.6	0.3	0.6	0.3	0.3	0.1	0.6	0.2	0.3	0.4	0.1	0.2	+0.1
Ecstasy (MDMA)[f]	—	—	—	1.4	1.5	0.8	1.0	0.8	0.7	1.6	1.7	2.1	2.9	3.6	7.2	7.5	6.2	4.5	3.5	3.0	3.0	2.5	3.3	3.1	3.5	+0.5
Salvia[p]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5	3.4	-0.1
Cocaine	19.7	15.7	13.8	10.8	8.6	6.2	5.7	4.7	4.3	4.4	4.1	4.6	4.9	5.4	5.4	5.8	5.8	6.6	7.1	6.9	6.6	6.2	6.0	5.2	4.7	-0.5
Crack[g]	3.2	3.1	3.1	2.5	1.6	1.2	1.4	1.3	1.1	1.1	1.1	1.0	1.1	1.4	1.2	1.3	1.0	1.0	1.3	1.2	1.1	1.0	0.9	0.7	0.5	-0.2
Other Cocaine[h]	—	13.6	11.9	10.3	8.1	5.4	5.1	3.9	3.6	3.9	3.8	4.3	4.5	4.8	4.8	5.3	5.6	6.1	6.4	6.3	5.9	5.6	5.5	5.0	4.8	-0.3
Heroin	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.1	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.2	0.4	0.3	0.4	0.4	0.3	0.5	0.6	0.5	-0.1
With a Needle[i]	—	—	—	—	—	—	—	—	—	0.1	0.1	0.1	0.1	0.1	*	0.3	*	*	0.1	0.2	0.3	0.1	0.1	0.1	0.2	+0.1
Without a Needle[i]	—	—	—	—	—	—	—	—	—	0.3	0.4	0.4	0.6	0.6	0.5	0.9	0.2	0.4	0.3	0.4	0.5	0.3	0.4	0.6	0.4	-0.2
Narcotics other than Heroin[j,k]	3.1	3.1	2.7	2.8	2.7	2.5	2.5	2.2	2.5	3.0	2.9	3.3	3.4	3.8	4.1	5.0	7.1	8.5	9.0	8.7	9.1	8.7	9.1	8.4	9.0	+0.7
OxyContin[i,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	2.6	3.1	3.1	3.1	2.9	3.9	5.2	3.2	-1.9 ss
Vicodin[i,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.2	8.6	8.9	9.3	9.1	8.9	9.1	8.9	7.8	-1.1
Amphetamines, Adj.[j,l]	10.6	8.7	7.3	5.8	5.2	4.3	4.1	4.0	4.5	4.6	4.2	4.6	4.5	4.7	5.4	5.8	5.9	5.8	6.2	5.1	5.6	5.6	5.3	6.0	7.1	+1.1 s
Ritalin[i,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.9	2.9	2.7	2.5	2.6	2.4	2.4	1.7	1.7	0.0
Adderall[i,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.8	7.0	+1.3
Provigil[i,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.5	0.0
Methamphetamine[i]	—	—	—	—	—	—	—	—	—	—	—	—	—	2.8	2.5	2.8	2.5	2.7	2.8	2.4	1.9	1.5	1.0	0.9	0.7	-0.2
Crystal Meth. (Ice)[i]	—	—	—	—	0.4	0.3	0.4	0.8	0.9	1.2	0.9	0.9	1.1	0.9	1.2	1.1	1.4	1.3	1.5	1.6	1.1	1.1	0.8	0.8	0.5	-0.3

(Table continued on next page.)

TABLE 5-2 (cont.)
Trends in Annual Prevalence of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	
Sedatives (Barbiturates)[j]	2.3	2.1	1.8	1.7	1.9	1.8	1.6	1.9	1.8	2.1	2.2	2.4	2.5	2.8	3.4	3.7	3.9	3.9	4.4	4.2	3.9	4.2	4.7	3.8	3.3	-0.5
Sedatives, Adjusted[j,m]	3.0	2.5	2.1	1.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone[j]	1.3	0.9	0.5	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers[d,j]	5.4	5.1	4.2	3.7	3.7	3.5	3.4	3.1	2.9	3.4	3.2	3.1	3.8	3.7	4.6	5.5	7.0	6.8	7.4	6.7	6.5	7.1	6.8	6.4	6.3	-0.1
Rohypnol[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.5	0.1	0.1	0.2	0.3	0.2	0.1	—	—
GHB[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	0.6	0.5	0.3	0.2	0.4	0.3	0.2	0.3	+0.1
Ketamine[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.2	0.9	0.6	0.5	0.5	0.3	0.4	0.5	0.8	+0.3
Alcohol[n]	88.6	89.4	88.6	88.1	87.4	86.9	86.2	85.3	83.7	84.7	84.0	84.3	84.0	84.1	84.0	84.3	84.9	83.3	84.4	83.8	84.4	84.0	83.6	83.8	82.7	-1.0
Been Drunk[o]	—	—	—	—	—	62.0	60.9	61.1	58.8	61.6	59.9	63.2	59.6	63.2	60.6	63.1	61.8	62.9	63.8	63.5	65.7	65.8	66.0	65.5	64.8	-0.7
Flavored Alcoholic Beverages[p]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	62.7	58.4	58.5	58.9	58.3	57.0	52.0	-4.9 s
Cigarettes	40.1	40.3	37.7	38.0	37.1	37.7	37.9	37.8	38.3	38.8	40.3	41.8	41.6	41.1	40.9	41.1	39.1	38.6	39.0	39.1	36.9	36.2	35.0	33.9	33.0	-0.9
Steroids[q]	—	—	—	0.5	0.3	0.5	0.4	0.3	0.4	0.5	0.3	0.5	0.4	0.6	0.4	0.4	0.4	0.5	0.5	0.5	0.3	0.7	0.4	0.7	0.8	+0.1

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

' — ' indicates data not available.

' * ' indicates a prevalence rate of less than 0.05%.

See relevant footnotes at the end of Table 5-1.

TABLE 5-3
Trends in 30-Day Prevalence of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	
Any Illicit Drug[a]	25.8	23.4	20.5	17.7	15.9	15.1	14.8	14.9	15.3	15.8	15.8	16.4	16.1	17.1	18.1	18.8	18.9	19.9	19.1	18.6	18.5	18.9	19.3	19.8	18.9	-0.9
Any Illicit Drug[a] other than Marijuana	13.0	10.7	9.5	7.5	6.0	5.4	5.5	4.9	5.3	5.7	4.7	5.5	5.5	6.0	6.4	7.0	7.7	8.3	8.5	8.2	8.1	8.6	8.9	8.5	8.6	+0.1
Marijuana	22.0	20.7	17.9	15.5	13.9	13.5	13.3	13.4	14.1	14.0	15.1	15.0	14.9	15.6	16.1	16.7	16.9	17.3	16.5	15.8	15.7	16.0	16.0	17.0	16.1	-0.9
Inhalants[b]	0.4	0.6	0.6	0.5	0.6	0.5	0.6	0.7	0.5	0.7	0.5	0.5	0.7	0.8	0.5	0.4	0.5	0.3	0.3	0.2	0.3	0.2	0.4	0.2	0.1	0.0
Nitrites[c]	0.5	0.5	0.4	—	0.1	*	0.1	0.2	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hallucinogens[d]	1.3	1.2	1.1	1.1	0.9	1.1	1.5	1.2	1.4	1.7	1.2	1.5	1.4	1.3	1.2	1.2	0.9	1.2	0.9	0.8	0.7	0.9	0.9	0.8	1.0	+0.2
LSD	0.9	0.8	0.8	0.8	0.6	0.8	1.1	0.8	1.1	1.3	0.7	0.9	1.0	0.8	0.8	0.7	0.3	0.2	0.1	0.1	0.2	0.2	0.4	0.2	0.4	+0.2
Hallucinogens other than LSD[d]	0.6	0.6	0.4	0.5	0.4	0.3	0.5	0.6	0.6	0.6	0.6	0.7	0.5	0.6	0.7	0.6	0.8	1.2	0.9	0.8	0.6	0.8	0.7	0.7	0.8	+0.1
PCP[e]	0.2	0.1	0.3	—	0.2	0.1	0.2	0.2	0.1	*	0.1	0.1	0.2	0.2	*	*	0.1	0.1	0.1	*	*	*	0.1	*	*	0.0
Ecstasy (MDMA)[f]	—	—	—	0.4	0.2	0.1	0.3	0.3	0.2	0.4	0.3	0.6	0.8	1.3	1.9	1.8	1.3	0.8	0.6	0.6	0.7	0.5	0.6	0.6	0.8	+0.2
Cocaine	8.2	6.0	5.7	3.8	2.4	2.0	1.8	1.4	1.3	1.5	1.2	1.5	1.7	1.9	1.7	2.2	2.2	2.4	2.2	2.2	2.3	2.1	1.9	1.8	1.4	-0.4
Crack[g]	—	1.0	1.2	0.7	0.4	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.1	0.0
Other Cocaine[h]	—	4.8	4.8	3.4	2.1	1.8	1.7	1.1	1.0	1.3	1.1	1.5	1.5	1.6	1.5	1.8	2.0	2.1	2.1	1.9	1.9	2.0	1.7	1.6	1.5	-0.2
Heroin	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	*	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	-0.1
Narcotics other than Heroin[i,k]	0.9	0.9	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.9	0.7	0.9	0.9	1.2	1.4	1.7	2.9	2.9	3.0	3.5	3.2	3.4	3.6	3.2	3.4	+0.2
Amphetamines, Adj.[i,l]	4.0	3.2	2.7	2.1	1.9	1.5	1.5	1.5	1.7	1.7	1.5	1.7	1.7	1.9	2.3	2.4	2.5	2.5	2.4	2.1	2.2	2.3	2.2	2.5	2.9	+0.4
Methamphetamine[i]	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	0.7	1.0	1.0	0.7	0.6	0.7	0.5	0.6	0.3	0.3	0.2	0.0
Crystal Meth. (Ice)[i]	—	—	—	—	—	*	0.1	0.3	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.4	0.4	0.6	0.3	0.3	0.3	0.2	0.2	0.0

(Table continued on next page.)

TABLE 5-3 (cont.)
Trends in 30-Day Prevalence of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	
Sedatives (Barbiturates)[j]	0.7	0.7	0.7	0.5	0.6	0.5	0.5	0.6	0.6	0.8	0.8	0.9	0.9	1.1	1.3	1.7	1.5	1.5	1.8	1.7	1.5	1.6	1.9	1.2	1.1	-0.2
Sedatives, Adjusted[j,m]	0.9	0.8	0.7	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone[j]	0.3	0.2	0.1	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers[d,j]	1.8	1.6	1.4	1.2	1.1	0.9	1.0	1.0	0.8	1.1	0.7	1.1	1.2	1.3	1.8	2.1	2.8	2.4	2.7	2.6	2.3	2.8	2.7	2.8	2.2	-0.5
Alcohol[n]	75.1	75.4	74.0	72.4	71.2	70.6	69.0	68.3	67.7	68.1	66.7	67.5	66.9	68.2	66.8	67.2	68.3	67.0	68.4	68.6	68.7	69.5	68.9	69.4	68.4	-1.0
Been Drunk[o]	—	—	—	—	—	35.4	35.6	34.2	34.3	33.0	33.2	35.6	34.2	37.7	35.7	36.8	37.1	37.8	39.0	39.0	42.1	41.4	40.7	40.5	39.4	-1.1
Flavored Alcoholic Beverage[p]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.5	27.6	24.9	25.9	26.7	24.4	24.5	+0.1
Cigarettes	31.1	30.9	28.9	28.6	27.7	28.2	28.3	28.0	28.0	29.2	30.1	29.9	30.9	30.3	30.1	30.2	29.2	28.4	29.2	28.6	27.0	26.2	24.6	23.3	22.4	-1.0
Steroids[q]	—	—	—	0.2	0.1	0.2	0.1	*	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.4	0.2	0.3	0.5	+0.2

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

' — ' indicates data not available.

' * ' indicates a prevalence rate of less than 0.05%.

See relevant footnotes at the end of Table 5-1.

TABLE 5-4
Trends in 30-Day Prevalence of Daily Use of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	
Marijuana[r]	4.1	4.2	3.3	3.2	2.5	2.3	2.3	2.4	2.8	3.3	3.3	3.8	3.7	4.4	4.2	5.0	4.5	5.3	5.0	4.9	5.0	5.0	5.1	5.4	5.3	-0.1
Cocaine[r]	0.2	0.1	0.2	0.1	*	0.1	*	0.1	*	0.1	*	*	*	0.1	*	0.1	*	*	0.1	0.1	0.1	*	*	0.1	*	0.0
Amphetamines, Adjusted[j,l,r]	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.0
Alcohol																										
Daily[n,r]	6.1	6.6	6.1	5.5	4.7	4.9	4.5	4.5	3.9	3.9	4.0	4.6	4.0	4.8	4.1	4.4	4.7	5.1	4.5	5.2	5.4	5.6	5.3	5.3	4.6	-0.7
Been Drunk[o,r]	—	—	—	—	—	0.5	0.4	0.4	0.5	0.3	0.4	0.9	0.5	0.9	0.5	0.4	0.6	0.8	0.7	0.5	0.6	0.6	0.5	1.0	0.7	-0.3
5+ Drinks in a Row in Last 2 Weeks	36.1	36.2	35.2	34.8	34.3	34.7	34.2	34.4	33.7	32.6	33.6	34.4	34.1	35.8	34.7	35.9	35.9	35.8	37.1	37.0	37.6	37.8	37.9	36.7	35.9	-0.8
Cigarettes																										
Daily	25.2	24.8	22.7	22.4	21.3	21.7	20.9	20.8	20.7	21.2	21.8	20.6	21.9	21.5	21.8	21.2	21.2	20.3	20.8	19.6	18.6	17.3	16.7	15.0	14.8	-0.3
1/2 Pack+/Day	20.2	19.8	17.7	17.3	16.7	16.0	15.7	15.5	15.3	15.7	15.3	14.6	15.6	15.1	15.1	14.6	14.2	13.9	13.5	12.5	11.9	11.1	10.2	9.3	9.3	0.0

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

The illicit drugs not listed here show a daily prevalence of 0.2% or less in all years.

' * ' indicates a prevalence rate of less than 0.05%.

' — ' indicates data not available.

See relevant footnotes at the end of Table 5-1.

TABLE 5-5
Trends in Annual and 30-Day Prevalence of an Illicit Drug Use Index[a] among Respondents of Modal Ages 19–28
Total and by Gender

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Percentage who used in last 12 months																										
Any Illicit Drug																										
Total	41.9	39.3	36.3	32.8	30.7	27.0	28.3	28.4	28.4	29.8	29.2	29.2	29.9	30.3	30.8	32.1	32.4	33.0	33.7	32.8	32.1	32.5	33.8	33.3	33.2	-0.2
Males	45.3	42.6	39.5	35.7	33.6	30.0	31.4	31.1	32.3	32.1	31.6	31.9	33.6	33.9	34.4	34.9	35.6	36.0	37.0	35.3	35.9	35.4	37.4	35.3	38.1	+2.7
Females	39.0	36.5	33.6	30.5	28.3	24.5	25.8	26.1	25.3	28.1	27.3	27.1	27.1	27.6	28.2	30.1	30.2	31.0	31.4	31.1	29.5	30.7	31.4	32.0	29.9	-2.2
Any Illicit Drug other than Marijuana																										
Total	27.0	23.9	21.3	18.3	16.7	14.3	14.1	13.0	13.0	13.8	13.2	13.6	13.2	13.7	14.9	15.4	16.3	18.1	18.8	18.5	18.4	18.1	18.9	17.4	18.5	+1.1
Males	30.4	26.5	23.8	21.0	19.1	16.4	16.3	14.7	16.2	16.2	15.4	15.6	16.2	16.7	17.8	17.2	18.9	19.8	21.3	20.4	21.8	20.3	21.1	18.7	21.5	+2.8 s
Females	24.0	21.6	19.4	16.2	14.7	12.5	12.2	11.6	10.5	12.0	11.4	12.0	11.0	11.5	12.9	14.1	14.6	17.0	17.1	17.3	16.0	16.7	17.5	16.6	16.5	-0.1
Percentage who used in past 30 days																										
Any Illicit Drug																										
Total	25.8	23.4	20.5	17.7	15.9	15.1	14.8	14.9	15.3	15.8	15.8	16.4	16.1	17.1	18.1	18.8	18.9	19.9	19.1	18.6	18.5	18.9	19.3	19.8	18.9	-0.9
Males	29.9	27.1	23.7	21.1	18.8	18.3	17.9	17.4	19.5	18.6	19.0	19.8	20.1	20.0	21.5	21.9	22.8	22.4	23.1	22.0	22.5	22.7	22.8	22.4	23.9	+1.5
Females	22.2	20.2	17.8	15.0	13.5	12.5	12.4	12.9	12.1	13.5	13.3	13.8	13.2	15.0	15.6	16.6	16.3	18.3	16.3	16.4	15.7	16.4	16.9	18.0	15.5	-2.5 ss
Any Illicit Drug other than Marijuana																										
Total	13.0	10.7	9.5	7.5	6.0	5.4	5.5	4.9	5.3	5.7	4.7	5.5	5.5	6.0	6.4	7.0	7.7	8.3	8.5	8.2	8.1	8.6	8.9	8.5	8.6	+0.1
Males	15.2	12.3	10.6	9.1	6.8	6.6	6.5	5.9	7.1	6.8	5.7	6.8	7.1	7.3	7.8	8.1	8.5	9.2	10.6	9.2	10.2	10.0	10.0	8.5	10.0	+1.5
Females	11.0	9.4	8.7	6.2	5.3	4.4	4.7	4.0	3.9	4.8	4.0	4.5	4.4	5.1	5.4	6.3	7.1	7.7	7.1	7.6	6.8	7.7	8.1	8.5	7.6	-0.8
Approximate Weighted N																										
All Respondents																										
Total	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	
Males	*3,200*	*3,100*	*3,000*	*2,900*	*3,000*	*3,000*	*3,000*	*3,000*	*2,900*	*2,800*	*2,700*	*2,800*	*2,700*	*2,600*	*2,400*	*2,400*	*2,200*	*2,200*	*2,300*	*2,200*	*2,100*	*1,900*	*2,000*	*2,000*	*2,000*	
Females	*3,700*	*3,700*	*3,700*	*3,700*	*3,700*	*3,600*	*3,700*	*3,700*	*3,600*	*3,600*	*3,600*	*3,600*	*3,500*	*3,400*	*3,300*	*3,400*	*3,100*	*3,100*	*3,400*	*3,200*	*3,000*	*2,900*	*2,900*	*2,900*	*2,900*	

Source. The Monitoring the Future study, the University of Michigan.

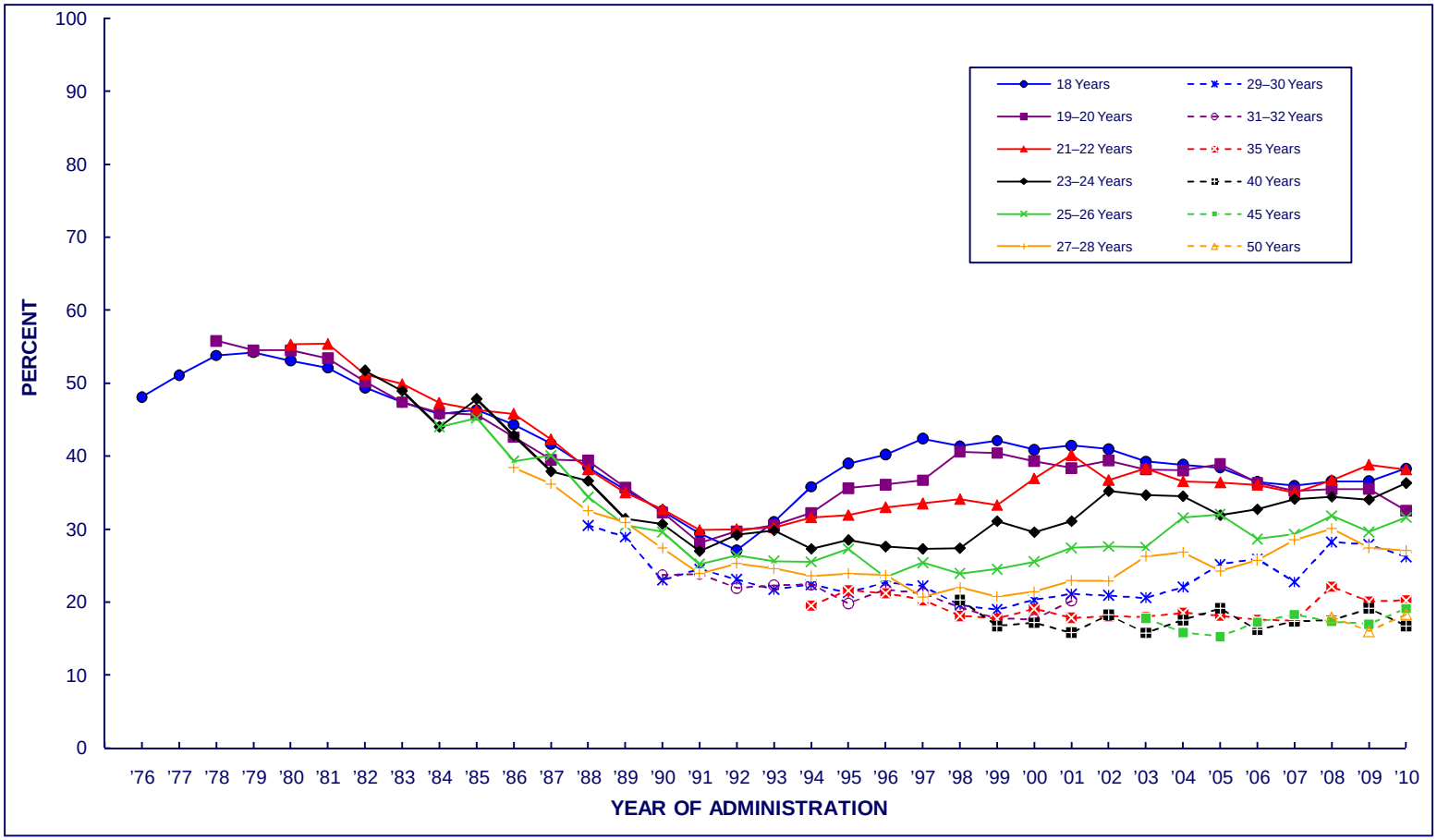
Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), methaqualone (until 1990), or tranquilizers not under a doctor's orders.

FIGURE 5-1

Any Illicit Drug: Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



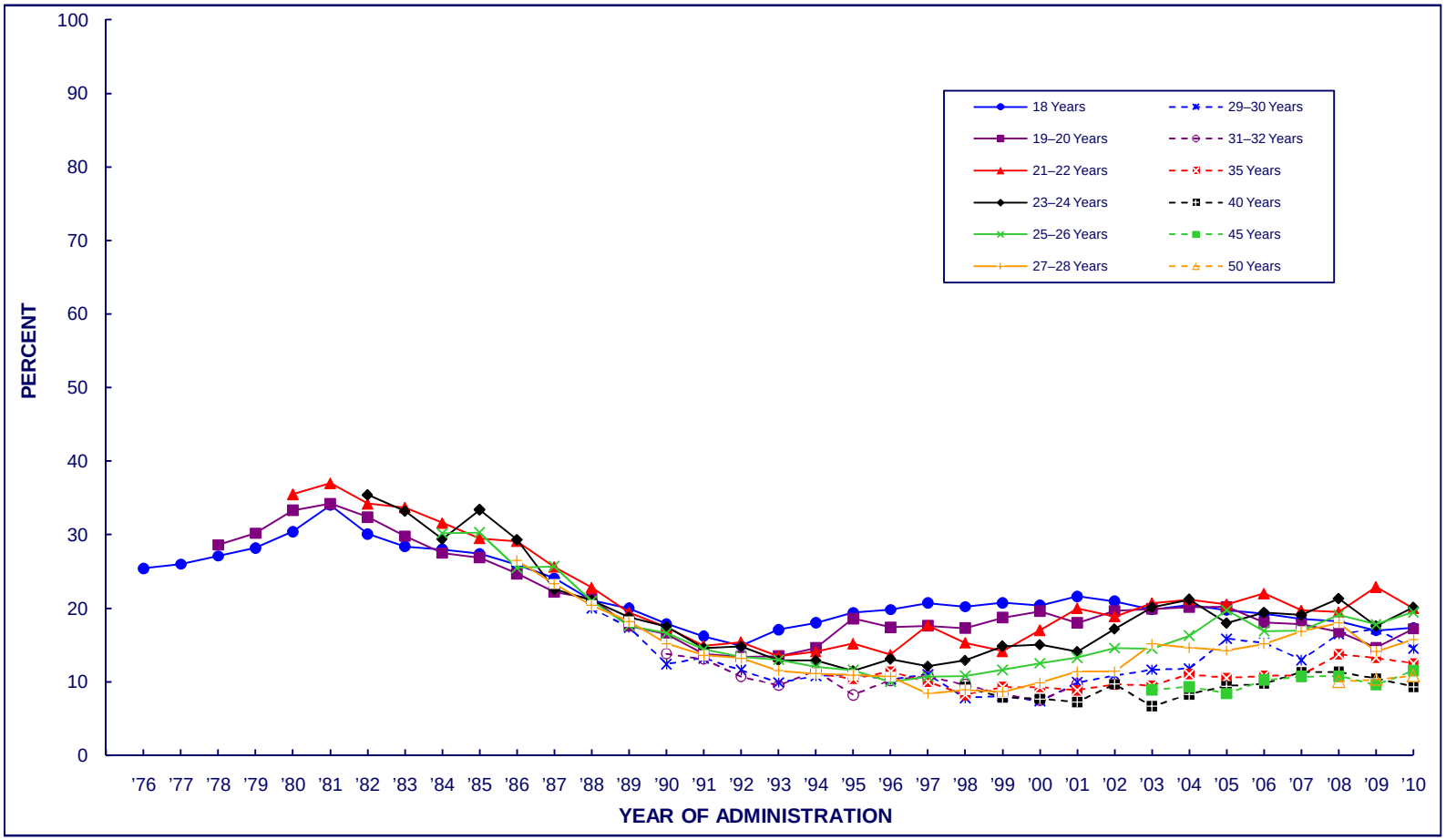
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	48.1	51.1	53.8	54.2	53.1	52.1	49.4	47.4	45.8	46.3	44.3	41.7	38.5	35.4	32.5	29.4	27.1	31.0	35.8	39.0	40.2	42.4	41.4	42.1	40.9	41.4	41.0	39.3	38.8	38.4	36.5	35.9	36.6	36.5	38.3
19–20			55.8	54.5	54.5	53.4	50.2	47.4	45.9	45.7	42.6	39.5	39.4	35.7	32.3	28.1	29.7	30.5	32.2	35.6	36.1	36.7	40.6	40.4	39.3	38.4	39.4	38.1	38.0	38.9	36.3	35.2	35.5	35.5	32.5
21–22					55.3	55.4	51.2	49.9	47.3	46.3	45.8	42.3	38.2	35.0	32.7	29.9	30.0	30.2	31.6	31.9	33.0	33.5	34.1	33.3	36.9	40.2	36.7	38.3	36.5	36.4	36.0	35.0	36.7	38.8	38.1
23–24							51.7	48.9	44.0	47.8	42.8	37.9	36.6	31.4	30.7	27.0	29.2	29.8	27.3	28.5	27.6	27.3	27.4	31.1	29.6	31.1	35.2	34.6	34.5	31.9	32.7	34.1	34.4	34.1	36.3
25–26									44.0	45.2	39.3	40.1	34.4	30.5	29.6	25.2	26.4	25.6	25.5	27.3	23.4	25.4	23.9	24.5	25.5	27.4	27.6	27.5	31.6	32.0	28.6	29.3	31.8	29.6	31.6
27–28											38.4	36.2	32.5	30.9	27.4	23.9	25.3	24.6	23.6	23.9	23.7	20.7	22.0	20.8	21.4	22.9	22.9	26.3	26.8	24.3	25.7	28.5	30.1	27.4	27.1
29–30													30.5	28.9	23.0	24.5	23.1	21.7	22.4	21.3	22.7	22.2	19.6	19.0	20.3	21.1	20.9	20.6	22.0	25.2	25.9	22.7	28.2	27.9	26.2
31–32[a]															23.7	23.8	21.9	22.3	22.4	19.8	21.7	21.2	19.3	17.7	17.6	20.2	—	—	—	—	—	—	—	—	—
35																			19.5	21.6	21.2	20.3	18.1	17.7	19.1	17.8	18.1	17.9	18.5	18.2	17.5	17.5	22.1	20.0	20.2
40																							20.3	16.7	17.2	15.8	18.2	15.8	17.5	19.1	16.2	17.4	17.5	19.1	16.7
45																											17.8	15.8	15.3	17.2	18.3	17.3	17.0	19.1
50																																	17.9	16.0	18.3

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-2

Any Illicit Drug other than Marijuana: Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



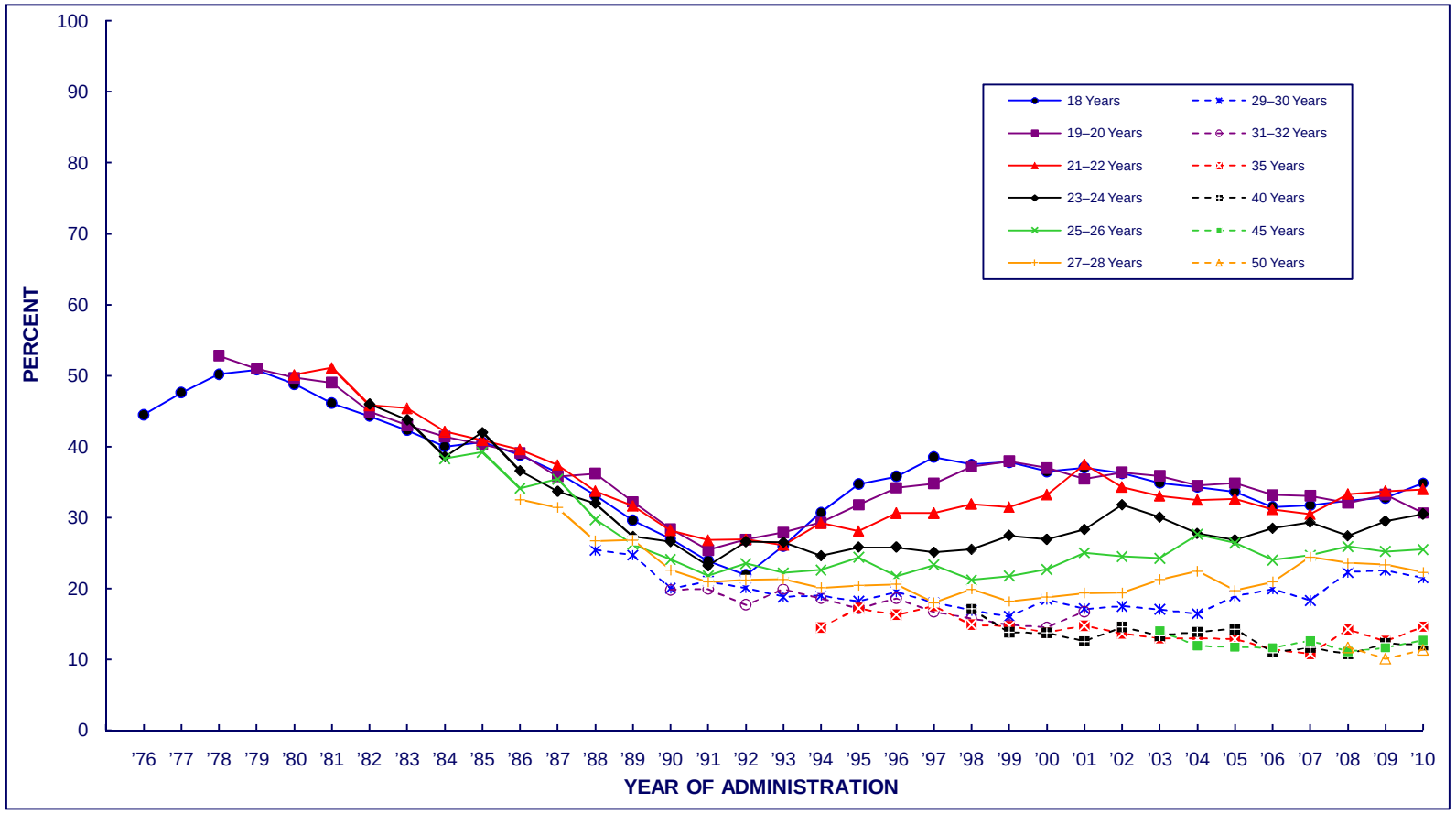
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	25.4	26.0	27.1	28.2	30.4	34.0	30.1	28.4	28.0	27.4	25.9	24.1	21.1	20.0	17.9	16.2	14.9	17.1	18.0	19.4	19.8	20.7	20.2	20.7	20.4	21.6	20.9	19.8	20.5	19.7	19.2	18.5	18.3	17.0	17.3
19–20			28.6	30.2	33.3	34.2	32.4	29.8	27.5	26.9	24.7	22.2	21.3	17.6	16.5	13.8	13.4	13.5	14.6	18.6	17.4	17.6	17.3	18.7	19.6	18.0	19.6	19.9	20.2	20.2	18.1	17.8	16.8	14.6	17.2
21–22					35.5	37.0	34.2	33.7	31.6	29.5	29.1	25.6	22.8	19.4	17.4	14.9	15.4	13.5	14.1	15.2	13.7	17.7	15.3	14.1	17.0	20.0	18.9	20.7	21.2	20.5	22.0	19.7	19.5	22.9	20.0
23–24							35.4	33.2	29.4	33.4	29.3	22.6	21.1	18.8	17.5	14.6	14.8	12.9	12.9	11.5	13.1	12.1	12.9	14.8	15.0	14.1	17.2	20.1	21.2	18.0	19.4	19.1	21.3	17.6	20.1
25–26									30.2	30.3	25.5	25.7	21.0	17.6	16.6	14.4	13.4	13.0	12.0	11.6	10.0	10.7	10.8	11.6	12.5	13.3	14.6	14.5	16.3	19.7	16.9	17.0	19.1	17.8	19.5
27–28											26.5	23.3	20.4	18.2	15.2	13.6	13.2	11.5	11.1	10.9	10.7	8.4	8.9	8.6	9.9	11.4	11.4	15.1	14.6	14.2	15.1	16.9	18.0	14.1	15.8
29–30													20.0	17.4	12.4	13.2	11.6	9.9	10.8	11.0	10.3	11.0	7.8	8.1	7.4	9.9	10.9	11.6	11.8	15.8	15.3	13.0	16.5	17.2	14.5
31–32[a]															13.8	13.1	10.7	9.5	11.5	8.2	10.2	10.8	9.6	8.3	7.4	9.7	—	—	—	—	—	—	—	—	—
35																			11.2	10.4	11.4	10.0	8.2	9.3	9.3	8.8	9.6	9.5	11.0	10.5	10.8	11.0	13.7	13.3	12.5
40																							9.3	7.9	7.7	7.3	9.7	6.7	8.3	9.4	9.8	11.3	11.3	10.4	9.3
45																												8.9	9.3	8.4	10.3	10.7	10.7	9.6	11.5
50																																	10.0	10.3	10.8

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-3a

Marijuana: Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



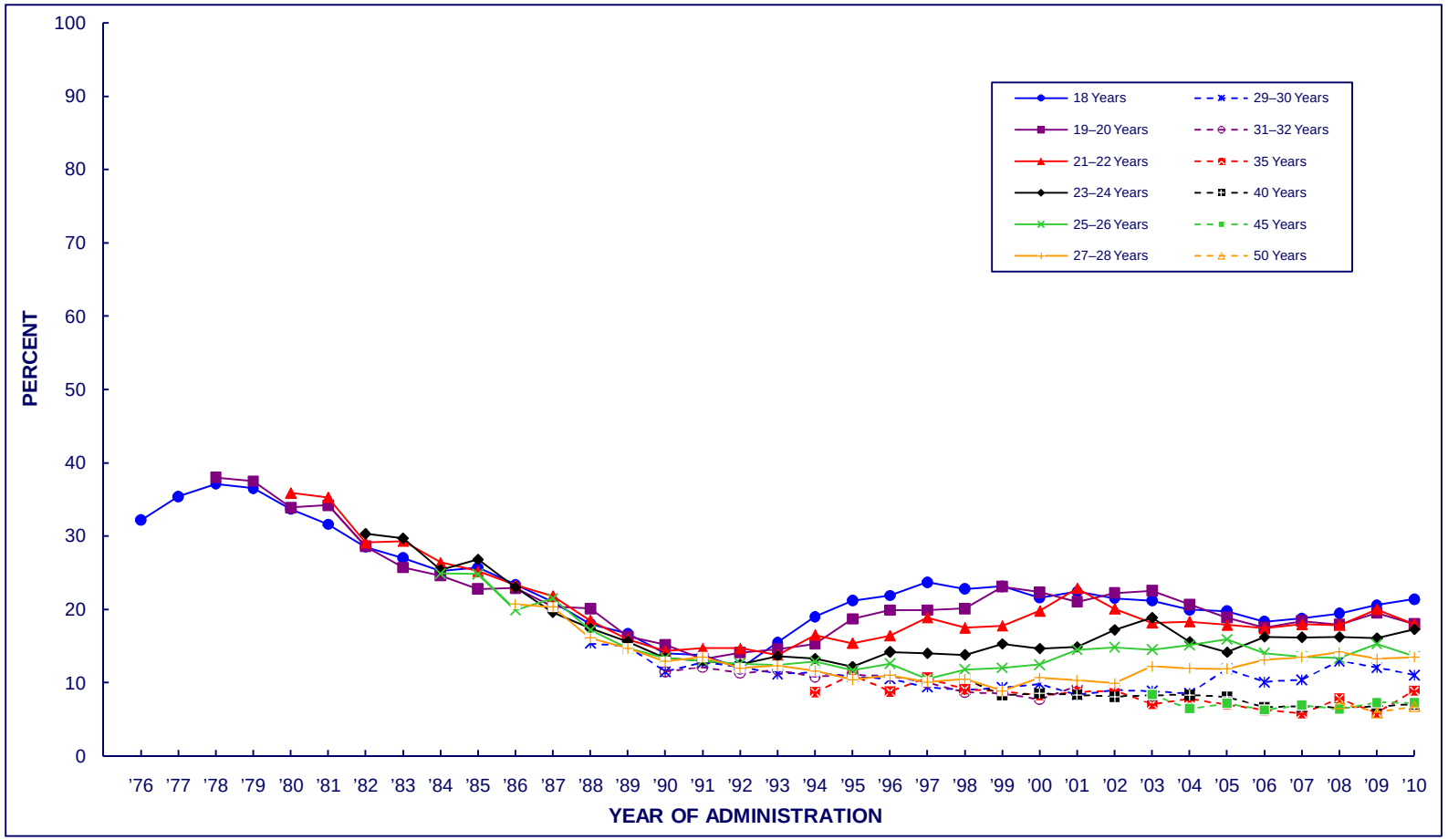
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	44.5	47.6	50.2	50.8	48.8	46.1	44.3	42.3	40.0	40.6	38.8	36.3	33.1	29.6	27.0	23.9	21.9	26.0	30.7	34.7	35.8	38.5	37.5	37.8	36.5	37.0	36.2	34.9	34.3	33.6	31.5	31.7	32.4	32.8	34.8
19–20			52.8	51.0	49.7	49.0	44.9	43.0	41.4	40.3	39.1	35.8	36.2	32.2	28.4	25.4	26.9	27.9	29.3	31.8	34.2	34.8	37.2	37.9	37.0	35.4	36.4	35.9	34.5	34.9	33.2	33.1	32.1	33.2	30.6
21–22					50.1	51.1	45.8	45.4	42.1	40.9	39.6	37.4	33.7	31.6	28.2	26.8	26.9	26.1	29.2	28.1	30.6	30.6	31.9	31.5	33.2	37.5	34.3	33.1	32.5	32.6	31.1	30.5	33.3	33.7	34.0
23–24							46.0	43.8	38.6	42.0	36.6	33.7	32.0	27.3	26.6	23.2	26.6	26.5	24.6	25.8	25.8	25.1	25.5	27.4	26.9	28.3	31.8	30.0	27.7	26.8	28.5	29.3	27.4	29.5	30.5
25–26									38.3	39.2	34.1	35.4	29.7	26.2	24.1	21.8	23.5	22.2	22.6	24.4	21.7	23.3	21.2	21.8	22.7	25.0	24.5	24.3	27.6	26.4	24.0	24.7	25.9	25.2	25.5
27–28											32.5	31.4	26.7	26.8	22.6	20.9	21.2	21.3	20.1	20.4	20.6	18.0	19.9	18.2	18.8	19.4	19.4	21.2	22.4	19.7	20.9	24.4	23.6	23.3	22.3
29–30													25.4	24.7	20.0	21.0	20.1	18.8	19.0	18.2	19.5	18.0	16.9	16.0	18.4	17.1	17.5	17.0	16.4	18.9	19.9	18.3	22.3	22.5	21.5
31–32[a]															19.8	19.9	17.7	19.9	18.6	17.2	18.6	16.7	15.8	14.8	14.5	16.7	—	—	—	—	—	—	—	—	—
35																			14.5	17.2	16.3	17.5	14.9	14.7	13.8	14.8	13.7	13.0	13.0	12.9	11.4	10.8	14.2	12.6	14.6
40																							17.1	13.8	13.7	12.5	14.6	13.4	13.9	14.3	11.0	11.6	10.7	12.2	12.0
45																												14.0	11.9	11.7	11.6	12.6	11.1	11.6	12.7
50																																	11.7	10.1	11.4

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-3b

Marijuana: Trends in 30-Day Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



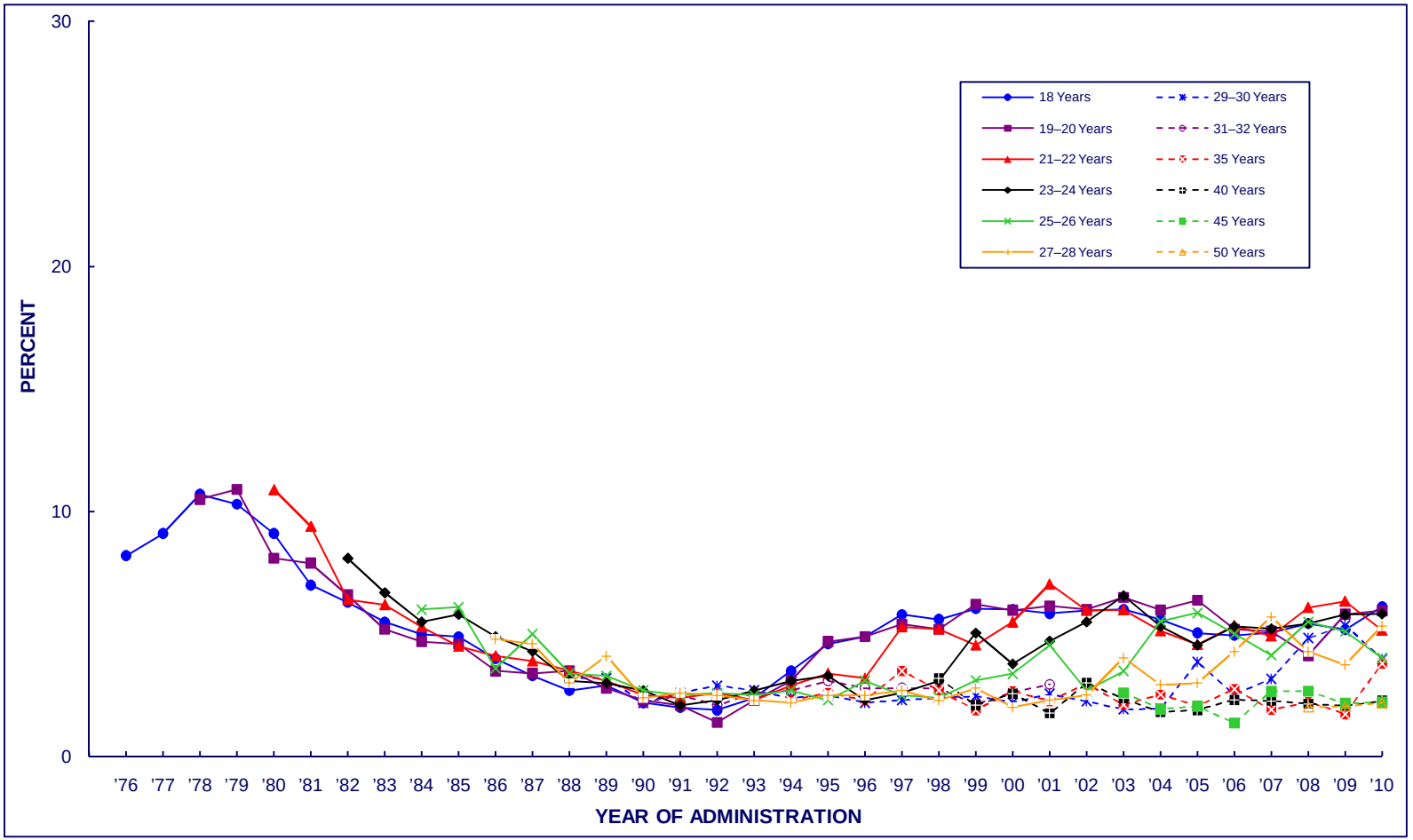
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	32.2	35.4	37.1	36.5	33.7	31.6	28.5	27.0	25.2	25.7	23.4	21.0	18.0	16.7	14.0	13.8	11.9	15.5	19.0	21.2	21.9	23.7	22.8	23.1	21.6	22.4	21.5	21.2	19.9	19.8	18.3	18.8	19.4	20.6	21.4
19–20			38.0	37.5	33.9	34.2	28.6	25.7	24.6	22.8	22.9	20.4	20.1	16.3	15.2	13.2	14.1	14.6	15.3	18.7	19.9	19.9	20.1	23.1	22.3	21.0	22.2	22.5	20.7	18.9	17.5	18.4	17.9	19.5	18.0
21–22					35.9	35.3	29.1	29.3	26.4	25.2	23.3	21.8	18.5	15.9	14.3	14.7	14.7	13.8	16.5	15.4	16.4	18.9	17.5	17.8	19.8	22.9	20.1	18.2	18.3	17.9	17.4	18.0	17.8	20.0	18.0
23–24							30.3	29.7	25.4	26.8	23.0	19.6	17.4	15.6	13.4	13.0	12.5	13.6	13.3	12.2	14.2	14.0	13.8	15.3	14.7	14.9	17.2	18.9	15.6	14.1	16.2	16.2	16.2	16.0	17.3
25–26									24.9	24.8	19.9	21.5	17.2	14.7	13.4	13.0	12.6	12.4	12.9	11.7	12.6	10.5	11.8	12.0	12.5	14.5	14.8	14.5	15.1	15.9	14.0	13.6	13.3	15.3	13.6
27–28											20.7	20.3	16.1	14.7	12.9	13.5	12.0	12.3	11.6	10.4	11.0	10.1	10.5	8.9	10.7	10.3	9.9	12.2	12.0	11.9	13.1	13.5	14.2	13.3	13.5
29–30													15.4	15.0	11.5	12.7	12.2	11.2	11.4	10.8	10.5	9.4	9.0	9.3	9.8	8.3	9.0	8.9	8.5	11.9	10.1	10.4	12.9	12.1	11.0
31–32[a]															11.5	12.1	11.3	11.7	10.8	11.1	10.9	10.0	8.7	8.5	7.7	9.6	—	—	—	—	—	—	—	—	—
35																			8.7	11.1	8.8	10.7	9.1	8.8	8.3	8.8	8.9	7.1	7.8	7.0	6.2	5.8	7.8	5.9	8.9
40																							10.5	8.3	8.5	8.3	8.1	8.2	8.3	8.1	6.7	6.7	6.6	6.8	7.1
45																												8.4	6.5	7.2	6.3	6.9	6.4	7.3	7.3
50																																	7.2	5.9	6.8

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-3c

Marijuana: Trends in 30-Day Prevalence of Daily Use among Respondents of Modal Ages 18 through 50, by Age Group



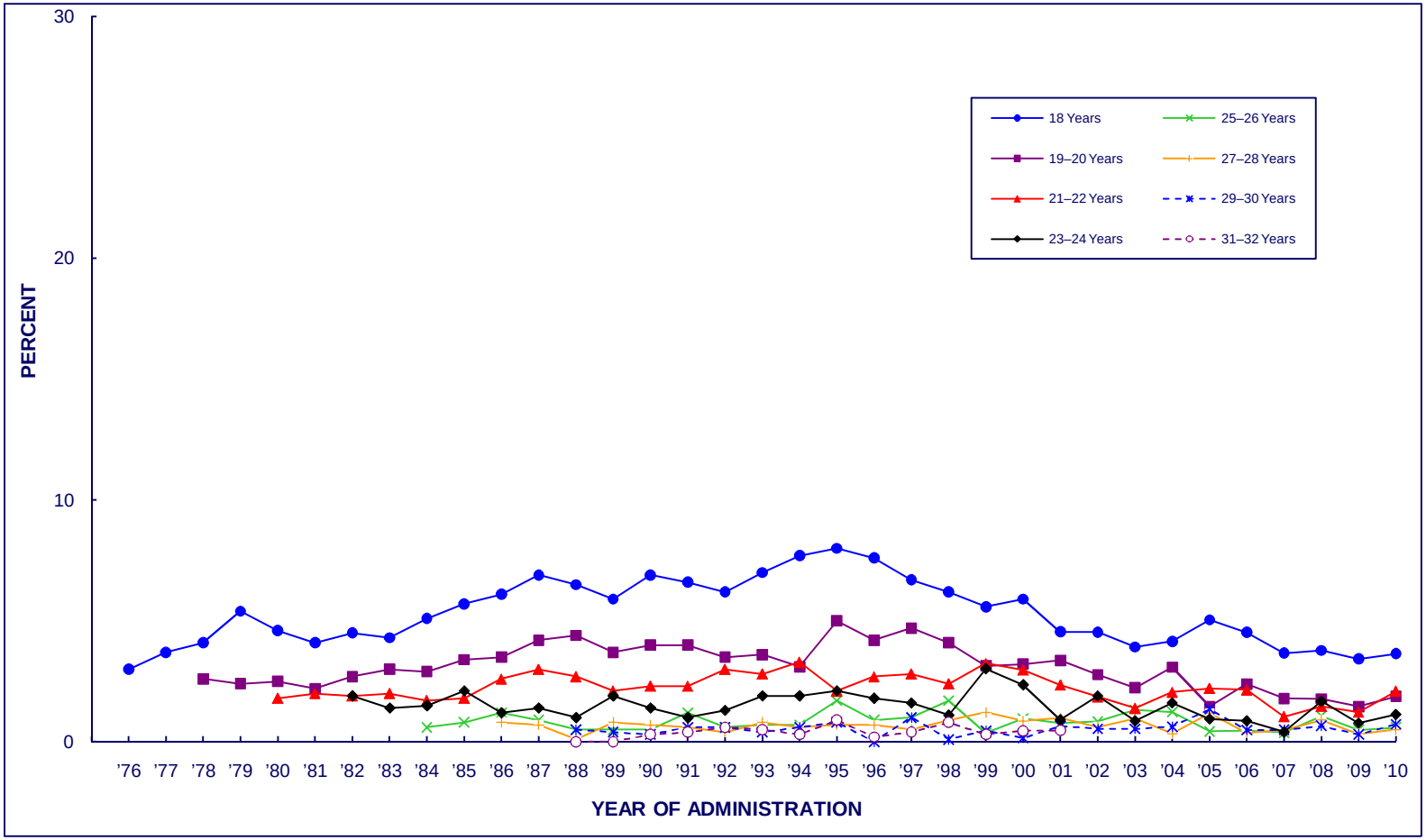
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	8.2	9.1	10.7	10.3	9.1	7.0	6.3	5.5	5.0	4.9	4.0	3.3	2.7	2.9	2.2	2.0	1.9	2.4	3.5	4.6	4.9	5.8	5.6	6.0	6.0	5.8	6.0	6.0	5.6	5.0	5.0	5.1	5.4	5.2	6.1
19–20			10.5	10.9	8.1	7.9	6.6	5.2	4.7	4.6	3.5	3.4	3.5	2.8	2.3	2.1	1.4	2.3	3.1	4.7	4.9	5.4	5.2	6.2	6.0	6.1	6.0	6.5	6.0	6.4	5.2	5.1	4.1	5.8	6.0
21–22					10.9	9.4	6.4	6.2	5.3	4.5	4.1	3.9	3.5	3.1	2.5	2.4	2.6	2.3	2.9	3.4	3.2	5.3	5.2	4.6	5.5	7.0	6.0	6.0	5.1	4.6	5.3	4.9	6.1	6.3	5.1
23–24							8.1	6.7	5.5	5.8	4.9	4.3	3.1	3.0	2.7	2.1	2.3	2.7	3.1	3.3	2.3	2.6	3.1	5.1	3.8	4.7	5.5	6.6	5.3	4.5	5.3	5.2	5.4	5.8	5.8
25–26									6.0	6.1	3.6	5.0	3.4	3.3	2.7	2.5	2.6	2.5	2.7	2.3	3.1	2.5	2.4	3.1	3.4	4.6	2.7	3.5	5.5	5.9	5.0	4.1	5.5	5.1	4.0
27–28											4.8	4.6	3.0	4.1	2.4	2.6	2.5	2.3	2.2	2.5	2.5	2.7	2.3	2.8	2.0	2.3	2.5	4.0	2.9	3.0	4.3	5.7	4.3	3.7	5.3
29–30													3.2	3.2	2.2	2.6	2.9	2.7	2.4	2.5	2.2	2.3	2.4	2.5	2.2	2.6	2.3	1.9	2.0	3.9	2.5	3.2	4.8	5.4	4.0
31–32[a]															2.2	2.5	2.1	2.6	2.7	3.1	2.8	2.8	2.8	2.1	2.6	2.9	—	—	—	—	—	—	—	—	—
35																			2.3	2.6	2.3	3.5	2.7	1.9	2.7	2.3	3.0	2.1	2.5	2.1	2.8	1.9	2.2	1.7	3.8
40																							3.2	2.1	2.6	1.8	3.0	2.4	1.8	1.9	2.3	2.3	2.2	2.1	2.3
45																												2.6	2.0	2.1	1.4	2.7	2.7	2.2	2.2
50																																	2.0	2.0	2.2

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-4

Inhalants:[a] Trends in Annual Prevalence among Respondents of Modal Ages 18 through 32,[b,c] by Age Group



Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	3.0	3.7	4.1	5.4	4.6	4.1	4.5	4.3	5.1	5.7	6.1	6.9	6.5	5.9	6.9	6.6	6.2	7.0	7.7	8.0	7.6	6.7	6.2	5.6	5.9	4.5	4.5	3.9	4.2	5.0	4.5	3.7	3.8	3.4	3.6
19–20			2.6	2.4	2.5	2.2	2.7	3.0	2.9	3.4	3.5	4.2	4.4	3.7	4.0	4.0	3.5	3.6	3.1	5.0	4.2	4.7	4.1	3.1	3.2	3.4	2.8	2.2	3.1	1.5	2.4	1.8	1.8	1.5	1.9
21–22					1.8	2.0	1.9	2.0	1.7	1.8	2.6	3.0	2.7	2.1	2.3	2.3	3.0	2.8	3.3	2.1	2.7	2.8	2.4	3.3	3.0	2.4	1.9	1.4	2.1	2.2	2.1	1.0	1.5	1.2	2.1
23–24							1.9	1.4	1.5	2.1	1.2	1.4	1.0	1.9	1.4	1.0	1.3	1.9	1.9	2.1	1.8	1.6	1.1	3.0	2.4	0.9	1.9	0.9	1.6	1.0	0.9	0.4	1.7	0.8	1.1
25–26									0.6	0.8	1.2	0.9	0.5	0.5	0.5	1.2	0.6	0.7	0.7	1.7	0.9	1.0	1.7	0.4	1.0	0.8	0.8	1.3	1.2	0.4	0.5	0.4	1.1	0.5	0.6
27–28											0.8	0.7	0.1	0.8	0.7	0.6	0.4	0.8	0.6	0.7	0.7	0.5	0.9	1.2	0.9	1.0	0.6	1.0	0.3	1.2	0.4	0.5	0.9	0.3	0.5
29–30													0.5	0.4	0.3	0.6	0.6	0.4	0.6	0.8	*	1.0	0.1	0.5	0.1	0.7	0.5	0.5	0.6	1.4	0.5	0.5	0.7	0.3	0.7
31–32[c]															0.3	0.4	0.6	0.5	0.3	0.9	0.2	0.4	0.8	0.3	0.5	0.5	—	—	—	—	—	—	—	—	—

Source. The Monitoring the Future study, the University of Michigan.

' * ' indicates a percentage of less than 0.05%.

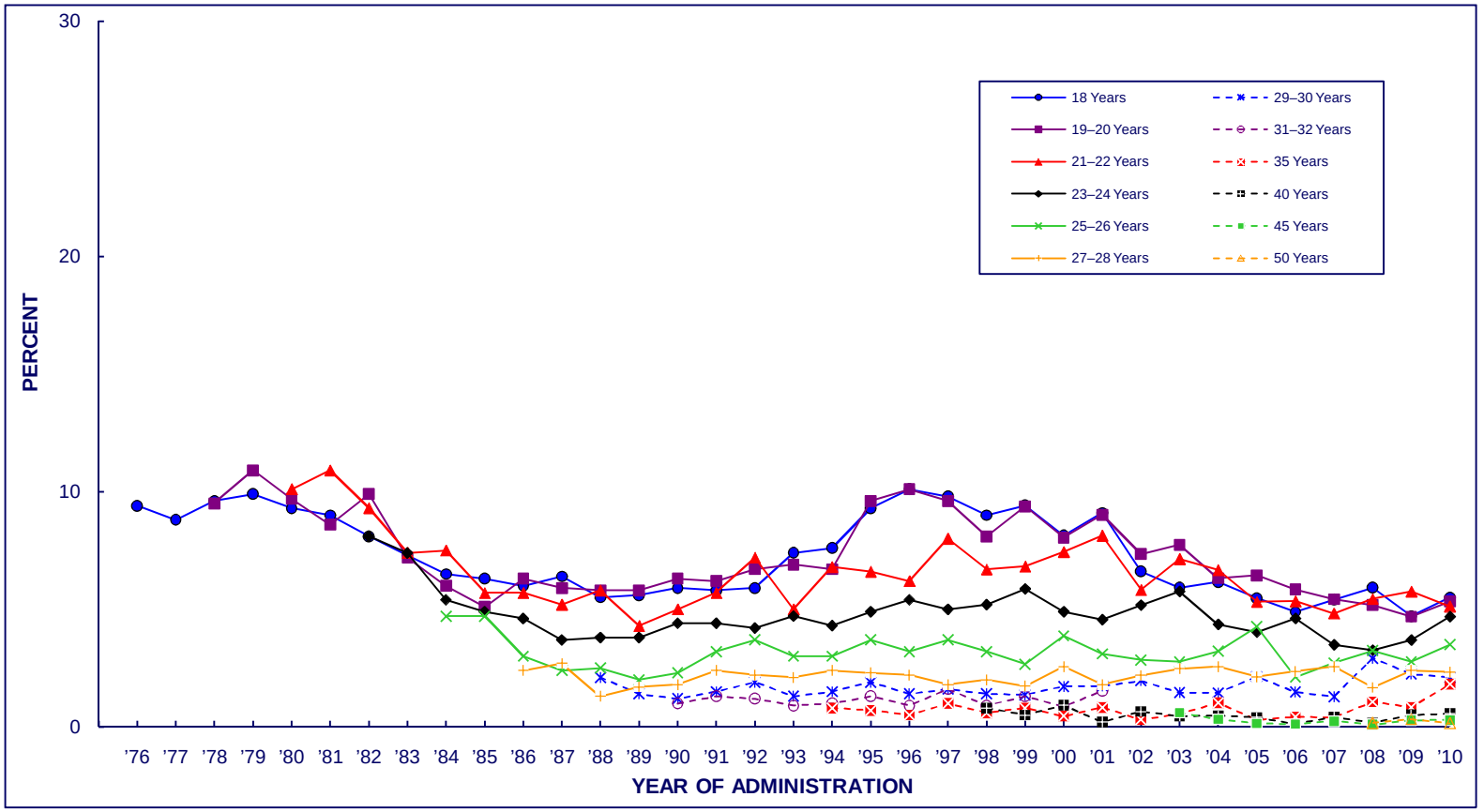
[a]Unadjusted for the possible underreporting of amyl and butyl nitrites. Chapter 5, *Volume I*, shows that such an adjustment would flatten the trend for seniors considerably because the line was adjusted up more in the earlier years, when nitrite use was more prevalent. Questions about nitrite use were dropped from the follow-up questionnaires beginning in 1995.

[b]Questions about the use of inhalants were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

[c]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-5

Hallucinogens:[a] Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	9.4	8.8	9.6	9.9	9.3	9.0	8.1	7.3	6.5	6.3	6.0	6.4	5.5	5.6	5.9	5.8	5.9	7.4	7.6	9.3	10.1	9.8	9.0	9.4	8.1	9.1	6.6	5.9	6.2	5.5	4.9	5.4	5.9	4.7	5.5
19–20			9.5	10.9	9.7	8.6	9.9	7.2	6.0	5.1	6.3	5.9	5.8	5.8	6.3	6.2	6.7	6.9	6.7	9.6	10.1	9.6	8.1	9.4	8.0	9.0	7.3	7.7	6.3	6.4	5.8	5.4	5.2	4.7	5.3
21–22					10.1	10.9	9.3	7.4	7.5	5.7	5.7	5.2	5.8	4.3	5.0	5.7	7.2	5.0	6.8	6.6	6.2	8.0	6.7	6.8	7.4	8.1	5.8	7.1	6.7	5.3	5.3	4.8	5.5	5.8	5.1
23–24							8.1	7.4	5.4	4.9	4.6	3.7	3.8	3.8	4.4	4.4	4.2	4.7	4.3	4.9	5.4	5.0	5.2	5.9	4.9	4.6	5.2	5.8	4.4	4.0	4.6	3.5	3.3	3.7	4.7
25–26									4.7	4.7	3.0	2.4	2.5	2.0	2.3	3.2	3.7	3.0	3.0	3.7	3.2	3.7	3.2	2.7	3.9	3.1	2.8	2.8	3.2	4.3	2.1	2.7	3.2	2.8	3.5
27–28											2.4	2.7	1.3	1.7	1.8	2.4	2.2	2.1	2.4	2.3	2.2	1.8	2.0	1.7	2.6	1.8	2.2	2.5	2.6	2.1	2.4	2.6	1.7	2.4	2.3
29–30													2.1	1.4	1.2	1.5	1.9	1.3	1.5	1.9	1.4	1.6	1.4	1.4	1.7	1.7	2.0	1.5	1.4	2.1	1.5	1.3	2.9	2.2	2.1
31–32[b]															1.0	1.3	1.2	0.9	1.0	1.3	0.9	1.6	0.9	1.3	0.9	1.5	—	—	—	—	—	—	—	—	—
35																			0.8	0.7	0.5	1.0	0.6	0.8	0.5	0.8	0.3	0.6	1.0	0.3	0.4	0.4	1.1	0.8	1.8
40																							0.8	0.5	0.9	0.2	0.7	0.5	0.5	0.4	0.1	0.4	0.2	0.5	0.6
45																												0.6	0.3	0.1	0.1	0.2	0.1	0.3	0.3
50																																	0.2	0.3	0.2

Source. The Monitoring the Future study, the University of Michigan.

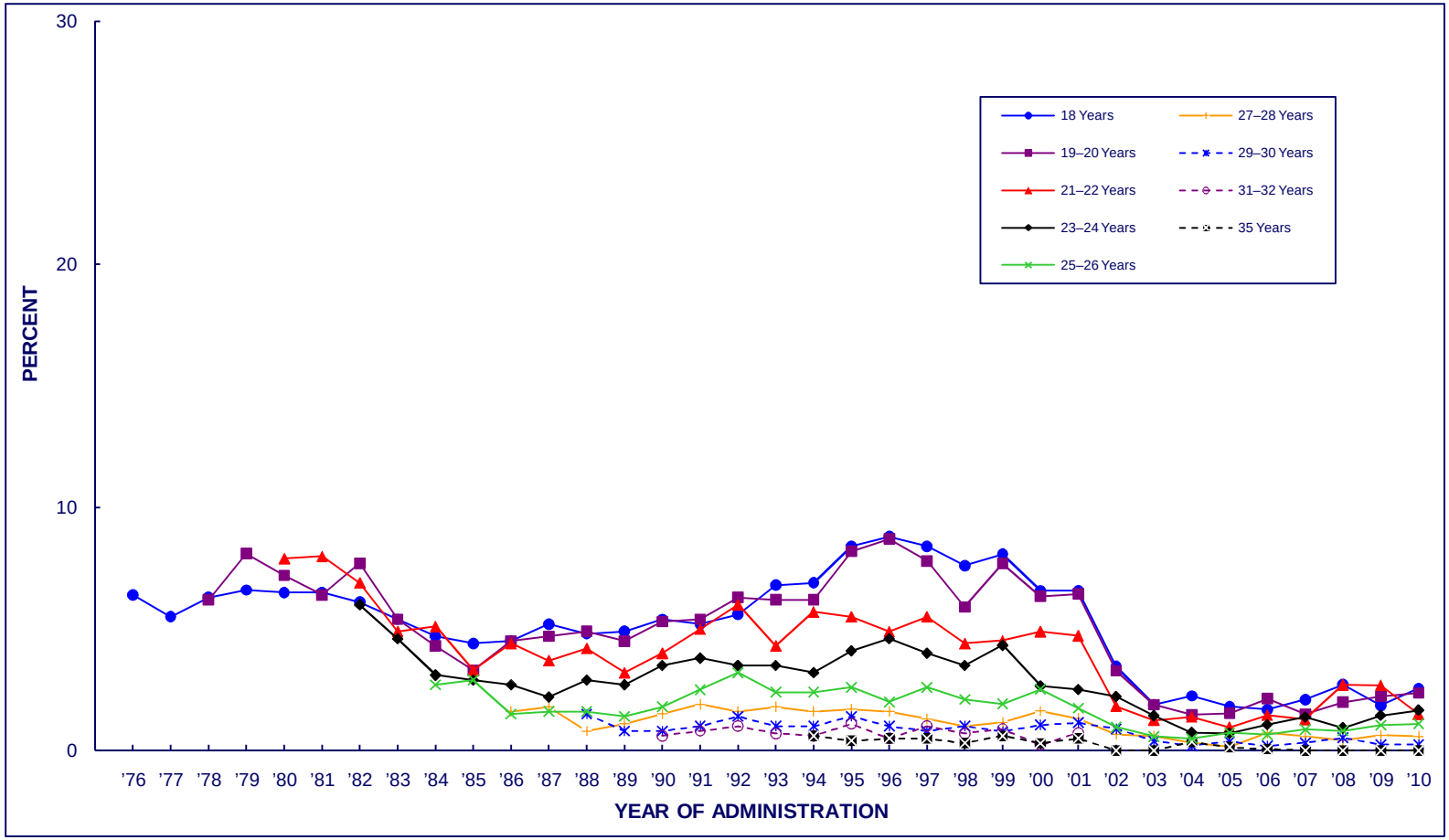
[a]Unadjusted for the possible underreporting of PCP.

[b]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-6

LSD: Trends in Annual Prevalence

among Respondents of Modal Ages 18 through 35[a] by Age Group



Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	6.4	5.5	6.3	6.6	6.5	6.5	6.1	5.4	4.7	4.4	4.5	5.2	4.8	4.9	5.4	5.2	5.6	6.8	6.9	8.4	8.8	8.4	7.6	8.1	6.6	6.6	3.5	1.9	2.2	1.8	1.7	2.1	2.7	1.9	2.6
19–20			6.2	8.1	7.2	6.4	7.7	5.4	4.3	3.3	4.5	4.7	4.9	4.5	5.3	5.4	6.3	6.2	6.2	8.2	8.7	7.8	5.9	7.7	6.3	6.4	3.3	1.9	1.5	1.5	2.1	1.5	2.0	2.2	2.4
21–22					7.9	8.0	6.9	4.9	5.1	3.3	4.4	3.7	4.2	3.2	4.0	5.0	6.0	4.3	5.7	5.5	4.9	5.5	4.4	4.5	4.9	4.7	1.8	1.2	1.4	1.0	1.4	1.3	2.7	2.7	1.5
23–24							6.0	4.6	3.1	2.9	2.7	2.2	2.9	2.7	3.5	3.8	3.5	3.5	3.2	4.1	4.6	4.0	3.5	4.3	2.6	2.5	2.2	1.4	0.7	0.7	1.1	1.4	0.9	1.4	1.7
25–26									2.7	2.9	1.5	1.6	1.6	1.4	1.8	2.5	3.2	2.4	2.4	2.6	2.0	2.6	2.1	1.9	2.5	1.7	1.0	0.6	0.5	0.7	0.6	0.9	0.8	1.0	1.1
27–28											1.6	1.8	0.8	1.1	1.5	1.9	1.6	1.8	1.6	1.7	1.6	1.3	1.0	1.2	1.6	1.3	0.7	0.6	0.3	0.1	0.7	0.6	0.4	0.6	0.6
29–30													1.5	0.8	0.8	1.0	1.4	1.0	1.0	1.4	1.0	0.8	1.0	0.8	1.0	1.1	0.9	0.4	0.2	0.4	0.2	0.3	0.5	0.2	0.2
31–32[b]															0.6	0.8	1.0	0.7	0.6	1.1	0.5	1.0	0.7	0.9	0.2	0.7	—	—	—	—	—	—	—	—	—
35[a]																			0.6	0.4	0.5	0.5	0.3	0.6	0.3	0.5	*	*	0.4	0.1	0.1	—	—	—	—

Source. The Monitoring the Future study, the University of Michigan.

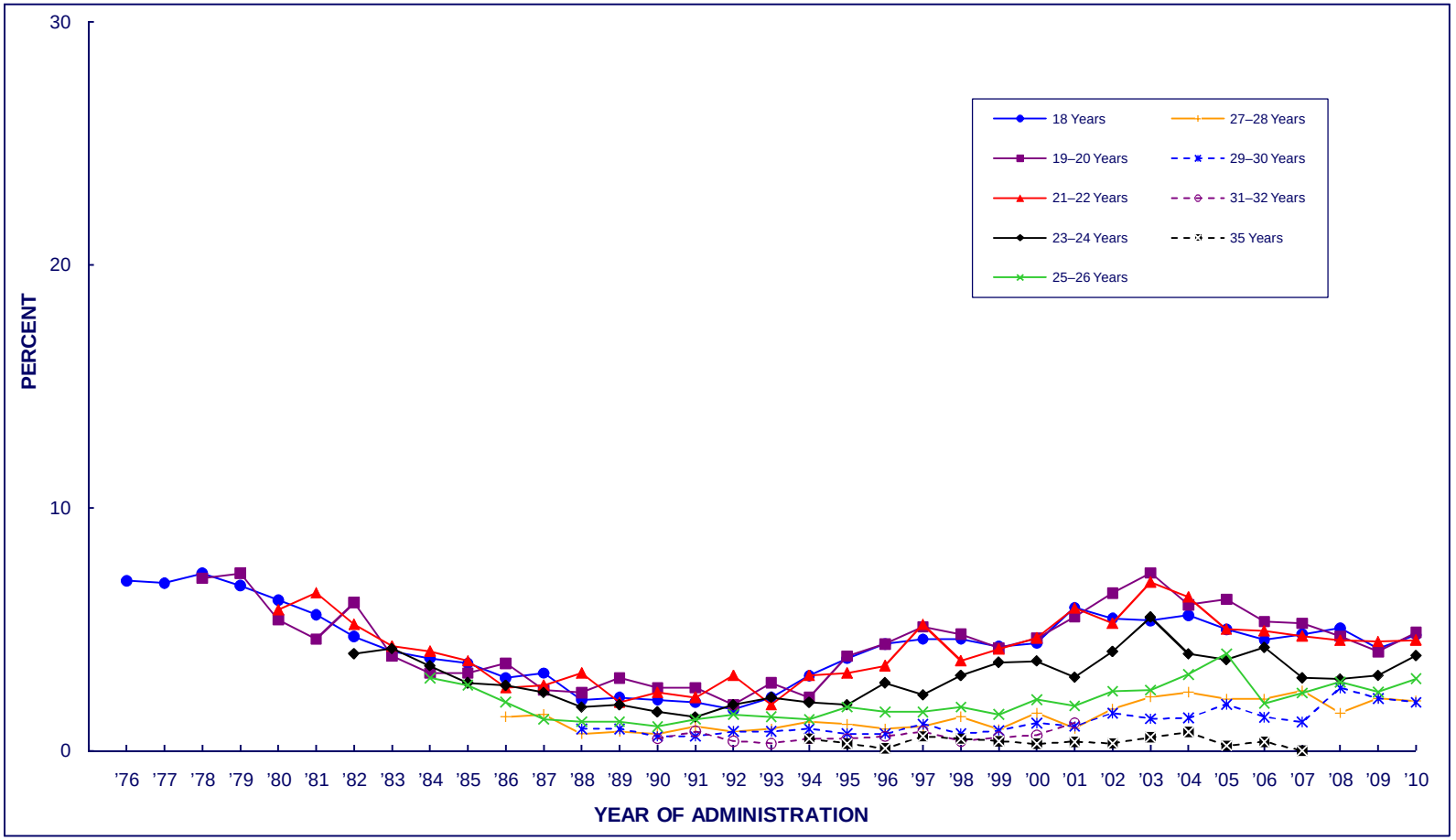
' * ' indicates a percentage of less than 0.05%.

[a]Questions about LSD use were not included in the questionnaires administered to the 40-, 45-, and 50-year-olds, or the 35-year-olds after 2006.

[b]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-7

Hallucinogens other than LSD:[a] Trends in Annual Prevalence among Respondents of Modal Ages 18 through 35,[b] by Age Group



Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	7.0	6.9	7.3	6.8	6.2	5.6	4.7	4.1	3.8	3.6	3.0	3.2	2.1	2.2	2.1	2.0	1.7	2.2	3.1	3.8	4.4	4.6	4.6	4.3	4.4	5.9	5.4	5.4	5.6	5.0	4.6	4.8	5.0	4.2	4.8
19–20			7.1	7.3	5.4	4.6	6.1	3.9	3.2	3.2	3.6	2.5	2.4	3.0	2.6	2.6	1.9	2.8	2.2	3.9	4.4	5.1	4.8	4.2	4.6	5.5	6.5	7.3	6.0	6.2	5.3	5.2	4.7	4.1	4.9
21–22					5.8	6.5	5.2	4.3	4.1	3.7	2.6	2.7	3.2	2.0	2.4	2.2	3.1	1.9	3.1	3.2	3.5	5.2	3.7	4.2	4.7	5.9	5.2	6.9	6.3	5.0	4.9	4.7	4.5	4.5	4.6
23–24							4.0	4.2	3.5	2.8	2.7	2.4	1.8	1.9	1.6	1.4	1.9	2.2	2.0	1.9	2.8	2.3	3.1	3.6	3.7	3.0	4.1	5.5	4.0	3.7	4.2	3.0	3.0	3.1	3.9
25–26									3.0	2.7	2.0	1.3	1.2	1.2	1.0	1.3	1.5	1.4	1.3	1.8	1.6	1.6	1.8	1.5	2.1	1.9	2.5	2.5	3.1	4.0	2.0	2.4	2.8	2.4	3.0
27–28											1.4	1.5	0.7	0.8	0.7	1.0	0.8	0.9	1.2	1.1	0.9	1.0	1.4	0.9	1.6	0.9	1.7	2.2	2.4	2.1	2.1	2.5	1.6	2.2	2.1
29–30													0.9	0.9	0.6	0.6	0.8	0.8	0.9	0.7	0.7	1.1	0.7	0.8	1.1	1.0	1.6	1.3	1.4	1.9	1.4	1.2	2.6	2.2	2.0
31–32[c]															0.5	0.8	0.4	0.3	0.5	0.5	0.6	0.8	0.4	0.6	0.6	1.1	—	—	—	—	—	—	—	—	—
35[b]																			0.5	0.3	0.1	0.6	0.5	0.4	0.3	0.4	0.3	0.6	0.8	0.2	0.4	—	—	—	—

Source. The Monitoring the Future study, the University of Michigan.

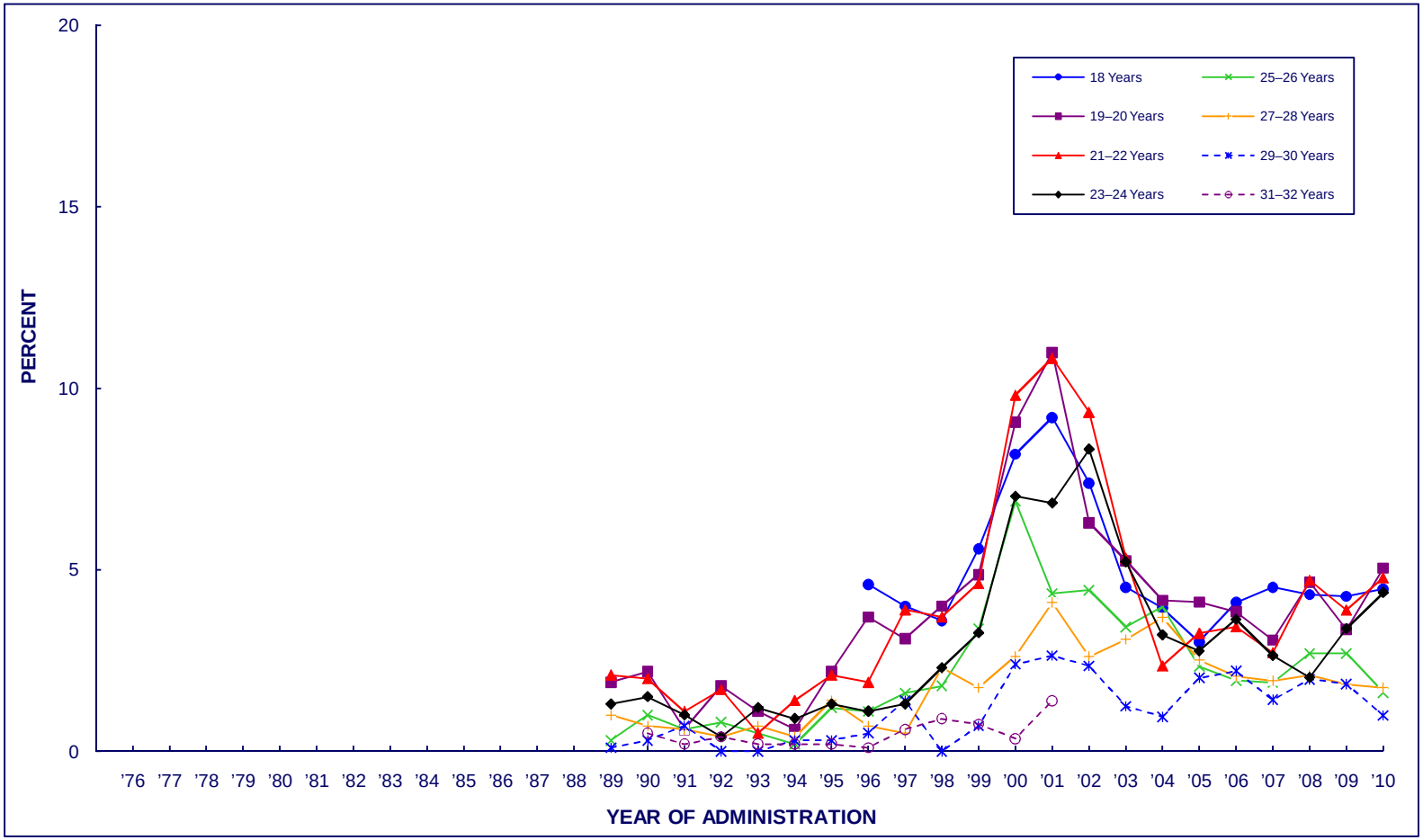
[a]Unadjusted for the possible underreporting of PCP.

[b]Questions about the use of hallucinogens other than LSD were not included in the questionnaires administered to the 40-, 45-, and 50-year-olds, or the 35-year-olds after 2006.

[c]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-8

Ecstasy (MDMA): Trends in Annual Prevalence among Respondents of Modal Ages 18 through 32,[a] by Age Group



Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18																					4.6	4.0	3.6	5.6	8.2	9.2	7.4	4.5	4.0	3.0	4.1	4.5	4.3	4.3	4.5
19–20														1.9	2.2	0.6	1.8	1.1	0.6	2.2	3.7	3.1	4.0	4.9	9.1	11.0	6.3	5.3	4.2	4.1	3.8	3.1	4.7	3.4	5.0
21–22														2.1	2.0	1.1	1.7	0.5	1.4	2.1	1.9	3.9	3.7	4.6	9.8	10.8	9.3	5.3	2.4	3.3	3.4	2.7	4.7	3.9	4.8
23–24														1.3	1.5	1.0	0.4	1.2	0.9	1.3	1.1	1.3	2.3	3.3	7.0	6.8	8.3	5.2	3.2	2.8	3.6	2.6	2.0	3.4	4.4
25–26														0.3	1.0	0.6	0.8	0.5	0.2	1.2	1.1	1.6	1.8	3.4	6.9	4.3	4.4	3.4	4.0	2.3	2.0	1.9	2.7	2.7	1.6
27–28														1.0	0.7	0.6	0.4	0.7	0.4	1.4	0.7	0.5	2.3	1.8	2.6	4.1	2.6	3.1	3.7	2.5	2.1	1.9	2.1	1.8	1.8
29–30														0.1	0.3	0.7	*	*	0.3	0.3	0.5	1.4	*	0.7	2.4	2.6	2.4	1.2	0.9	2.0	2.2	1.4	2.0	1.9	1.0
31–32[b]															0.5	0.2	0.4	0.2	0.2	0.2	0.1	0.6	0.9	0.8	0.3	1.4	—	—	—	—	—	—	—	—	—

Source. The Monitoring the Future study, the University of Michigan.

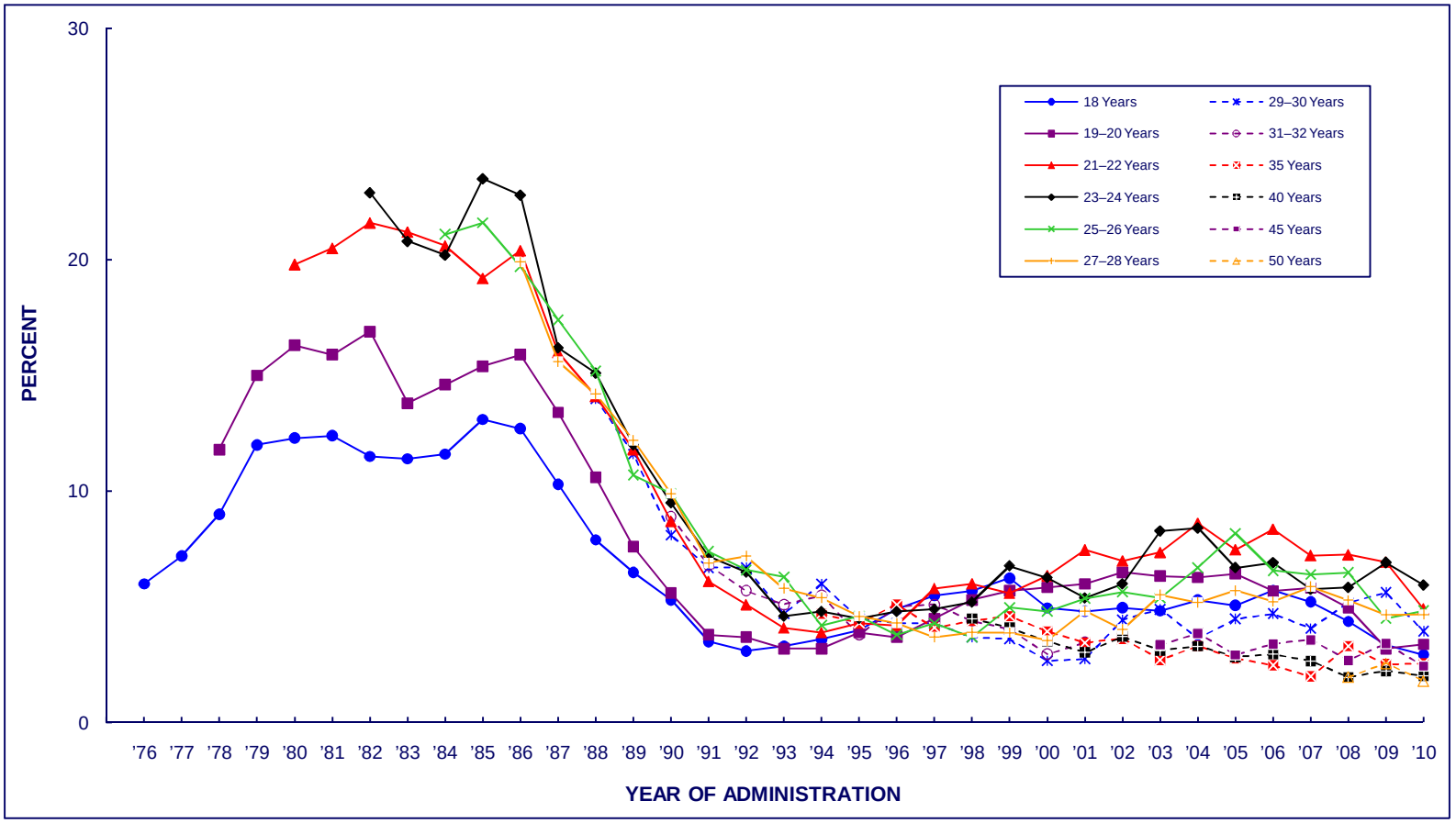
' * ' indicates a percentage of less than 0.05%.

[a]Questions about use of ecstasy (MDMA) were not included in the questionnaires administered to the 35-, 40-, 45-, and 50-year-olds.

[b]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-9

Cocaine: Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



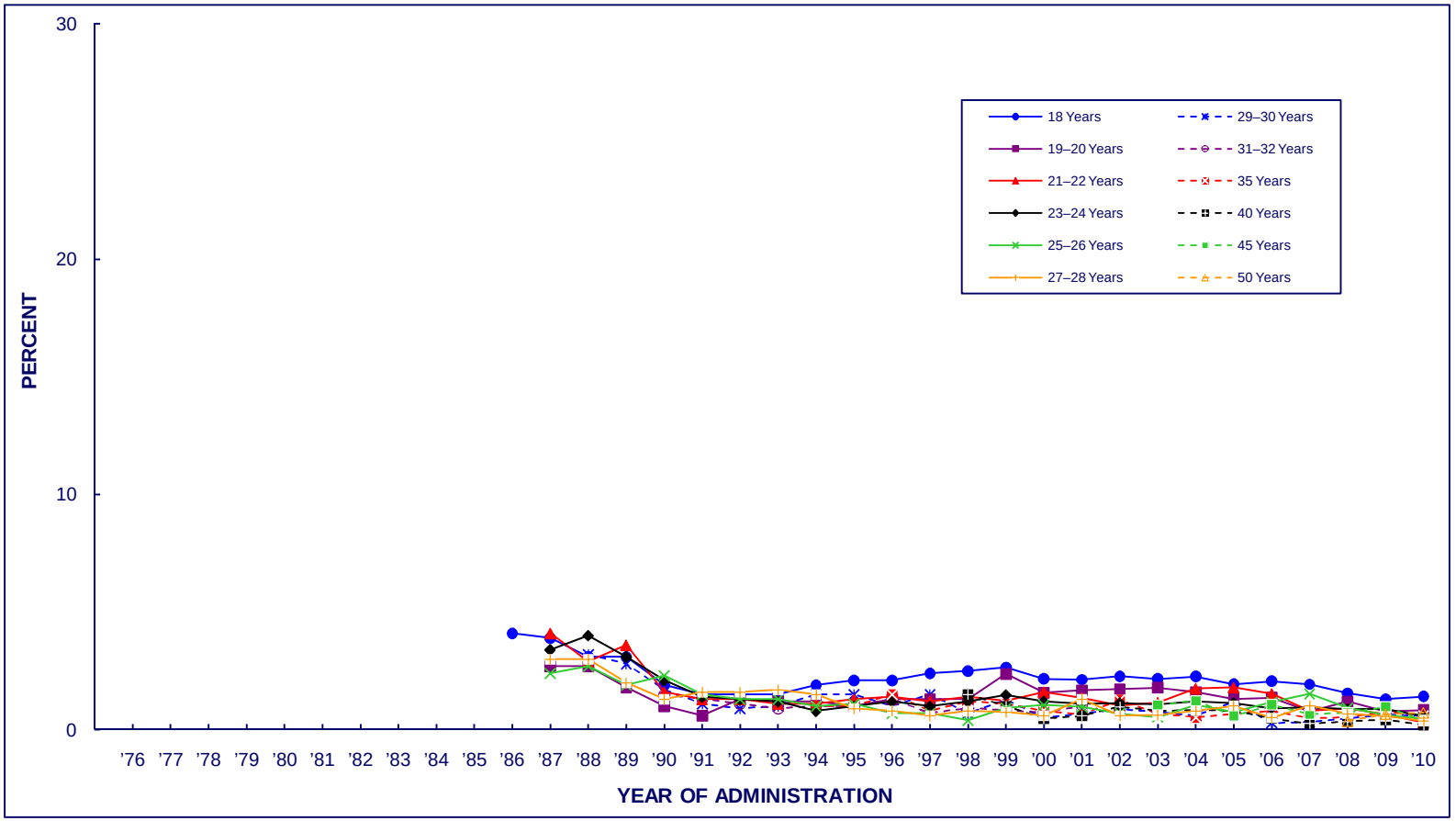
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	6.0	7.2	9.0	12.0	12.3	12.4	11.5	11.4	11.6	13.1	12.7	10.3	7.9	6.5	5.3	3.5	3.1	3.3	3.6	4.0	4.9	5.5	5.7	6.2	5.0	4.8	5.0	4.8	5.3	5.1	5.7	5.2	4.4	3.4	2.9
19–20			11.8	15.0	16.3	15.9	16.9	13.8	14.6	15.4	15.9	13.4	10.6	7.6	5.6	3.8	3.7	3.2	3.2	3.9	3.7	4.5	5.3	5.7	5.8	6.0	6.5	6.3	6.3	6.4	5.7	5.8	5.0	3.2	3.4
21–22					19.8	20.5	21.6	21.2	20.6	19.2	20.4	16.0	14.1	11.8	8.7	6.1	5.1	4.1	3.9	4.3	4.2	5.8	6.0	5.6	6.3	7.5	7.0	7.4	8.6	7.5	8.4	7.2	7.3	6.9	4.9
23–24							22.9	20.8	20.2	23.5	22.8	16.2	15.1	12.0	9.5	7.2	6.5	4.6	4.8	4.5	4.8	4.9	5.2	6.8	6.3	5.4	6.0	8.3	8.4	6.7	6.9	5.8	5.8	6.9	5.9
25–26									21.1	21.6	19.7	17.4	15.2	10.7	9.9	7.4	6.6	6.3	4.2	4.6	3.8	4.3	3.7	5.0	4.8	5.4	5.6	5.4	6.7	8.2	6.6	6.4	6.5	4.5	4.8
27–28											19.9	15.6	14.2	12.2	9.9	6.9	7.2	5.8	5.4	4.6	4.3	3.7	3.9	3.9	3.6	4.8	4.0	5.5	5.2	5.7	5.2	5.9	5.3	4.7	4.7
29–30													14.0	11.6	8.1	6.7	6.7	4.7	6.0	4.5	4.3	4.3	3.7	3.6	2.7	2.8	4.4	4.9	3.6	4.5	4.7	4.1	5.2	5.6	4.0
31–32[a]															8.9	6.8	5.7	5.1	5.5	3.8	5.0	5.1	4.4	4.1	3.0	3.5	—	—	—	—	—	—	—	—	—
35																			4.7	4.3	5.1	4.1	4.4	4.6	3.9	3.5	3.6	2.7	3.3	2.8	2.5	2.0	3.3	2.5	2.6
40																							4.5	4.1	3.5	3.0	3.7	3.1	3.3	2.8	3.0	2.7	2.0	2.2	2.0
45																												3.4	3.9	2.9	3.4	3.6	2.7	3.4	2.4
50																																	2.0	2.6	1.8

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-10

Crack Cocaine: Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



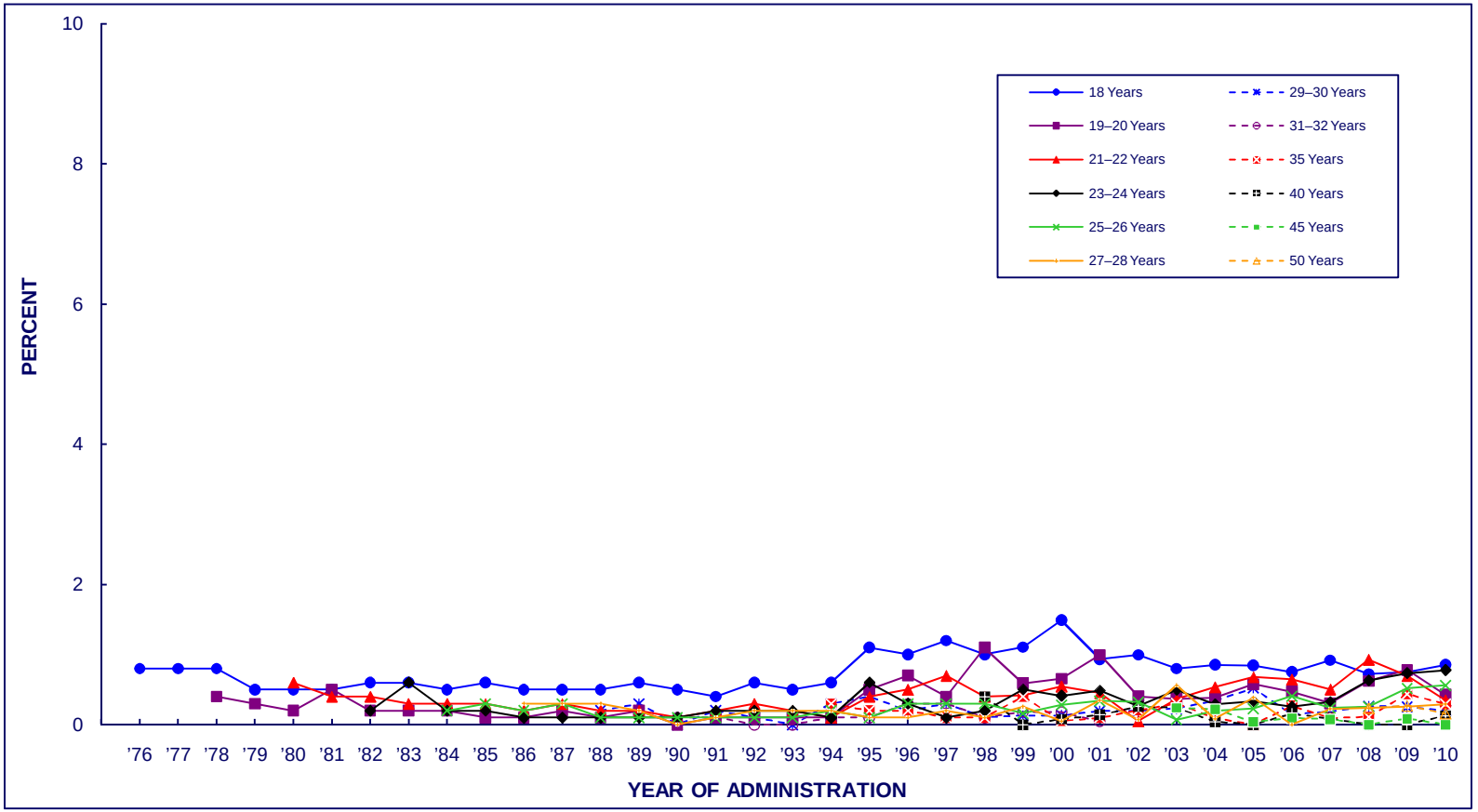
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18											4.1	3.9	3.1	3.1	1.9	1.5	1.5	1.5	1.9	2.1	2.1	2.4	2.5	2.7	2.2	2.1	2.3	2.2	2.3	1.9	2.1	1.9	1.6	1.3	1.4
19–20												2.7	2.7	1.8	1.0	0.6	1.3	1.2	1.2	1.0	1.3	1.3	1.3	2.4	1.6	1.7	1.7	1.8	1.6	1.3	1.4	0.8	1.2	0.8	0.8
21–22												4.1	2.9	3.6	1.6	1.3	1.3	1.1	1.1	1.3	1.4	1.2	1.4	1.2	1.6	1.4	1.0	1.2	1.8	1.8	1.5	0.8	0.9	0.7	0.3
23–24												3.4	4.0	3.1	2.1	1.4	1.3	1.2	0.8	1.0	1.2	1.0	1.2	1.5	1.2	1.1	1.1	1.1	1.2	1.1	0.9	1.0	0.9	0.9	0.6
25–26												2.4	2.7	1.9	2.3	1.5	1.3	1.3	1.0	1.1	0.7	0.7	0.4	0.9	1.1	1.0	0.7	0.5	1.1	0.8	1.2	1.5	0.9	0.6	0.5
27–28												3.0	3.0	2.0	1.3	1.6	1.6	1.7	1.5	0.9	0.8	0.6	0.8	0.8	0.6	1.3	0.6	0.6	0.8	1.0	0.5	1.0	0.7	0.6	0.4
29–30													3.2	2.8	1.7	1.1	0.9	1.0	1.5	1.5	1.0	1.5	0.7	1.3	0.5	0.7	0.9	0.8	0.6	1.2	0.3	0.3	0.5	0.7	0.6
31–32[a]															1.5	1.3	1.1	0.9	1.0	1.0	1.3	0.7	0.9	0.8	0.7	1.0	—	—	—	—	—	—	—	—	—
35																			1.0	1.0	1.5	0.8	1.2	1.1	0.8	0.7	1.3	0.7	0.5	0.7	0.8	0.5	0.5	0.8	0.6
40																							1.5	1.0	0.5	0.6	1.0	0.8	0.8	0.8	0.5	0.3	0.4	0.4	0.2
45																												1.1	1.2	0.6	1.1	0.7	0.7	1.0	0.4
50																																	0.4	0.7	0.7

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-11

Heroin: Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	0.8	0.8	0.8	0.5	0.5	0.5	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.4	0.6	0.5	0.6	1.1	1.0	1.2	1.0	1.1	1.5	0.9	1.0	0.8	0.9	0.8	0.8	0.9	0.7	0.7	0.9
19–20			0.4	0.3	0.2	0.5	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.2	*	0.1	0.1	0.1	0.1	0.5	0.7	0.4	1.1	0.6	0.7	1.0	0.4	0.4	0.4	0.6	0.5	0.3	0.6	0.8	0.4
21–22					0.6	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.1	0.2	0.3	0.2	0.1	0.4	0.5	0.7	0.4	0.4	0.5	0.5	0.1	0.4	0.5	0.7	0.6	0.5	0.9	0.7	0.3
23–24							0.2	0.6	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.6	0.3	0.1	0.2	0.5	0.4	0.5	0.3	0.5	0.3	0.3	0.3	0.3	0.6	0.7	0.8
25–26									0.2	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.1	0.2	0.2	0.4	0.2	0.3	0.5	0.6
27–28											0.3	0.3	0.3	0.2	*	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.3	0.1	0.3	0.1	0.6	0.1	0.4	*	0.2	0.2	0.3	0.3
29–30													0.2	0.3	*	0.2	0.1	*	0.3	0.4	0.2	0.3	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.5	0.1	0.2	0.3	0.3	0.2
31–32[a]															0.1	0.1	*	*	0.1	0.1	0.3	0.3	0.1	0.2	0.2	*	—	—	—	—	—	—	—	—	—
35																			0.3	0.2	0.2	0.1	0.1	0.4	0.1	0.1	0.2	0.3	0.1	*	0.3	0.1	0.1	0.4	0.3
40																							0.4	*	0.1	0.1	0.3	0.2	*	*	0.2	0.1	*	*	0.1
45																												0.2	0.2	*	0.1	0.1	*	0.1	*
50																																	0.2	0.3	0.2

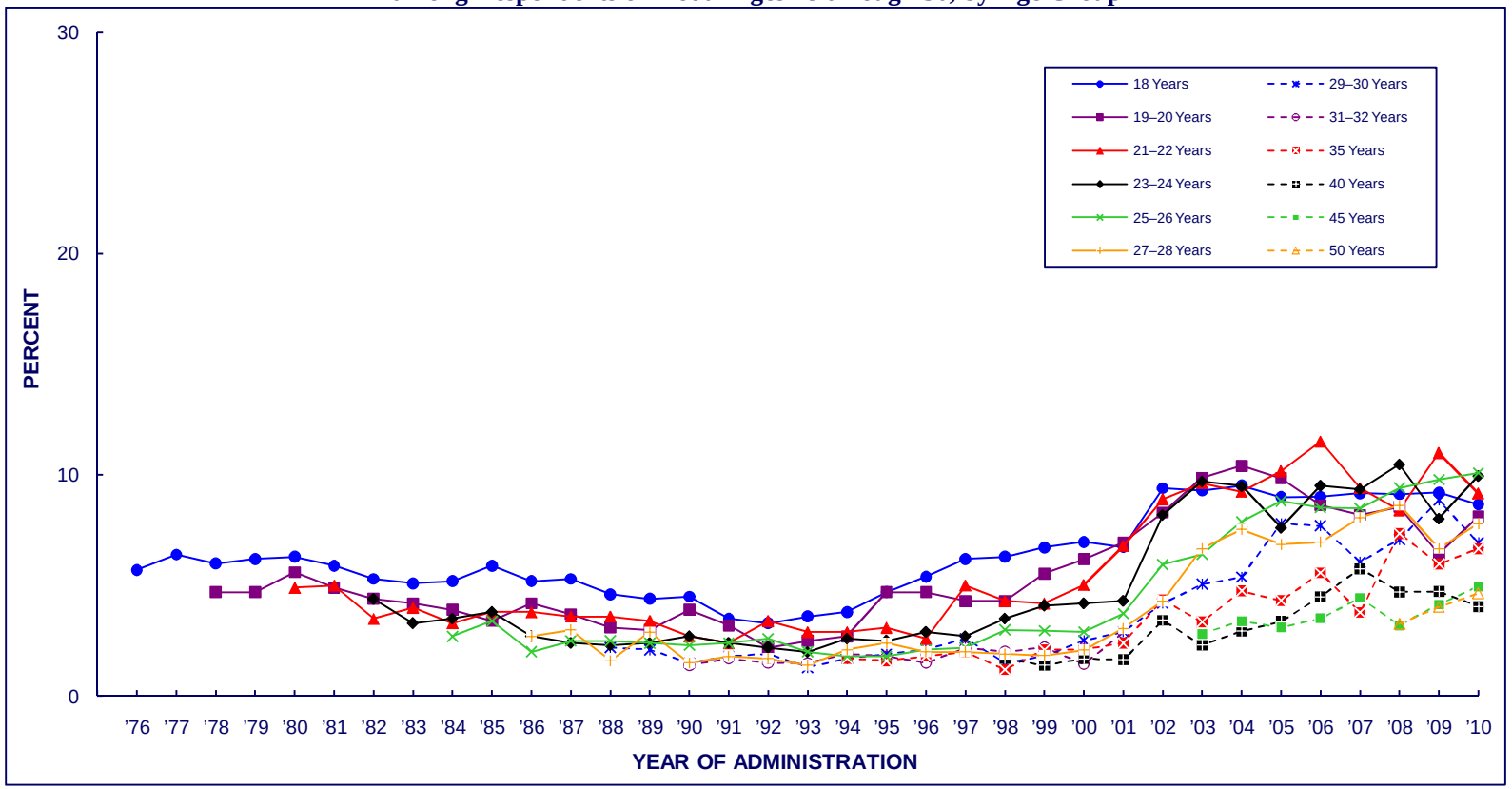
Source. The Monitoring the Future study, the University of Michigan.

' * ' indicates a percentage of less than 0.05%.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-12

Narcotics other than Heroin:[a] Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	5.7	6.4	6.0	6.2	6.3	5.9	5.3	5.1	5.2	5.9	5.2	5.3	4.6	4.4	4.5	3.5	3.3	3.6	3.8	4.7	5.4	6.2	6.3	6.7	7.0	6.7	9.4	9.3	9.5	9.0	9.0	9.2	9.1	9.2	8.7
19–20			4.7	4.7	5.6	4.9	4.4	4.2	3.9	3.4	4.2	3.7	3.1	3.0	3.9	3.2	2.2	2.5	2.7	4.7	4.7	4.3	4.3	5.5	6.2	7.0	8.3	9.9	10.4	9.9	8.6	8.2	8.6	6.4	8.1
21–22					4.9	5.0	3.5	4.0	3.3	3.8	3.8	3.6	3.6	3.4	2.7	2.4	3.4	2.9	2.9	3.1	2.6	5.0	4.3	4.2	5.0	6.8	8.9	9.6	9.2	10.2	11.5	9.4	8.4	11.0	9.2
23–24							4.4	3.3	3.5	3.8	2.7	2.4	2.3	2.4	2.7	2.4	2.2	2.0	2.6	2.5	2.9	2.7	3.5	4.1	4.2	4.3	8.2	9.7	9.5	7.6	9.5	9.4	10.5	8.0	10.0
25–26									2.7	3.4	2.0	2.5	2.5	2.4	2.3	2.4	2.6	2.0	1.8	1.8	2.1	2.2	3.0	3.0	2.9	3.7	6.0	6.4	7.9	8.8	8.5	8.5	9.4	9.8	10.1
27–28											2.7	3.0	1.6	2.9	1.5	1.8	1.7	1.4	2.1	2.4	2.0	2.0	1.9	1.8	2.1	3.1	4.3	6.7	7.5	6.9	7.0	8.1	8.6	6.7	7.8
29–30													2.2	2.1	1.5	1.8	1.9	1.3	1.7	1.9	2.1	2.6	1.5	1.8	2.5	2.9	4.2	5.1	5.4	7.8	7.7	6.1	7.1	8.9	6.9
31–32[b]															1.4	1.7	1.5	1.5	1.9	1.8	1.5	2.2	2.0	2.2	1.4	2.9	—	—	—	—	—	—	—	—	—
35																			1.7	1.6	1.8	2.0	1.2	2.1	2.1	2.4	4.4	3.4	4.8	4.3	5.6	3.8	7.4	6.0	6.7
40																							1.7	1.4	1.7	1.6	3.4	2.3	2.9	3.4	4.5	5.8	4.7	4.7	4.0
45																												2.8	3.4	3.1	3.5	4.4	3.2	4.1	5.0
50																																	3.3	4.0	4.7

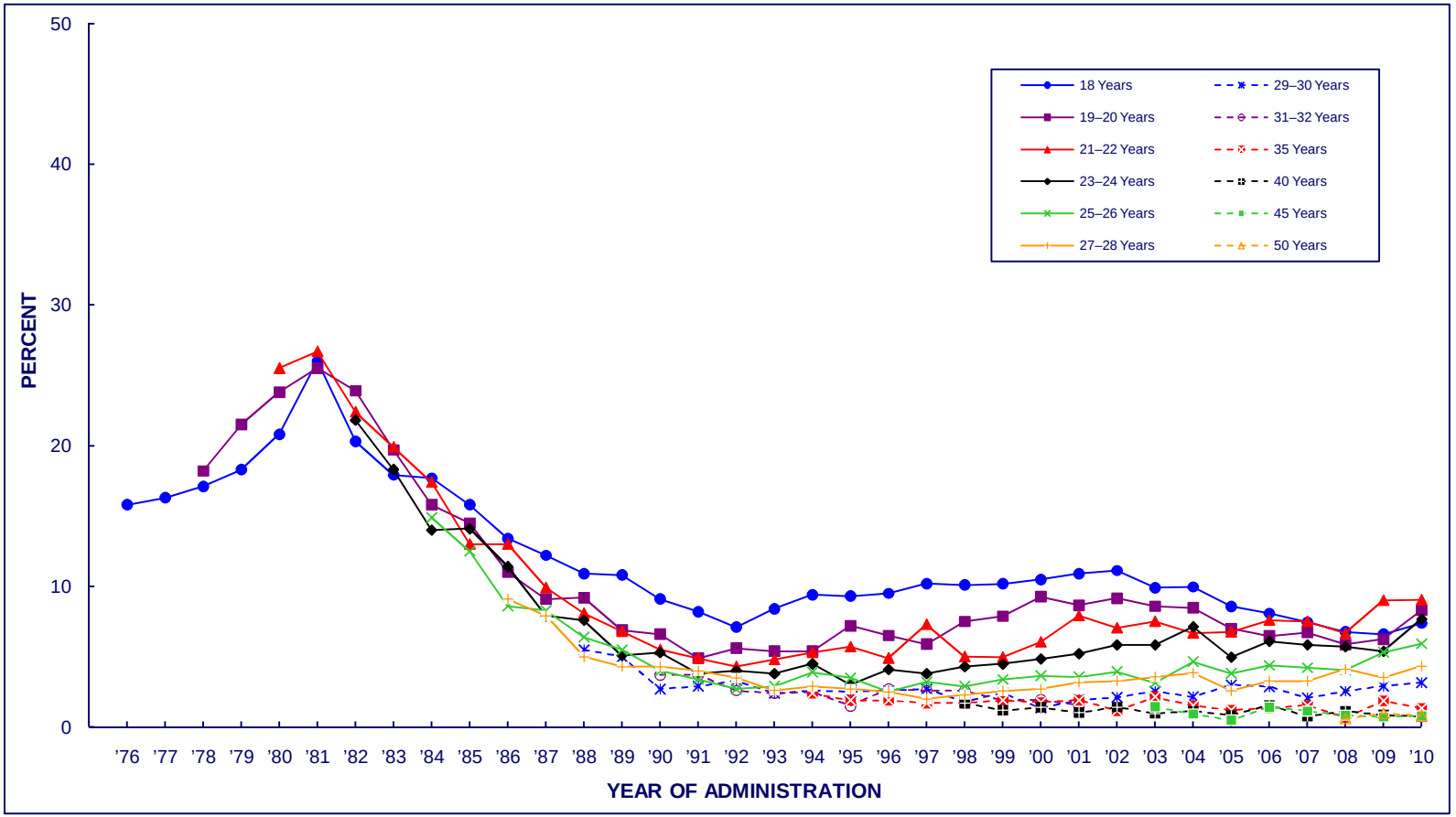
Source. The Monitoring the Future study, the University of Michigan.

[a]In 2002 the question text was changed on half of the questionnaire forms for 18- to 30-year-olds. The list of examples of narcotics other than heroin was updated. Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced by Vicodin, OxyContin, and Percocet. The 2001 data presented here are based on all forms. The 2002 data are based on the changed forms only. In 2003 the remaining forms were changed to the new wording. The data are based on all forms in 2003. Beginning in 2002 data were based on the changed question text for 35- and 40-year-olds.

[b]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-13

Amphetamines: Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



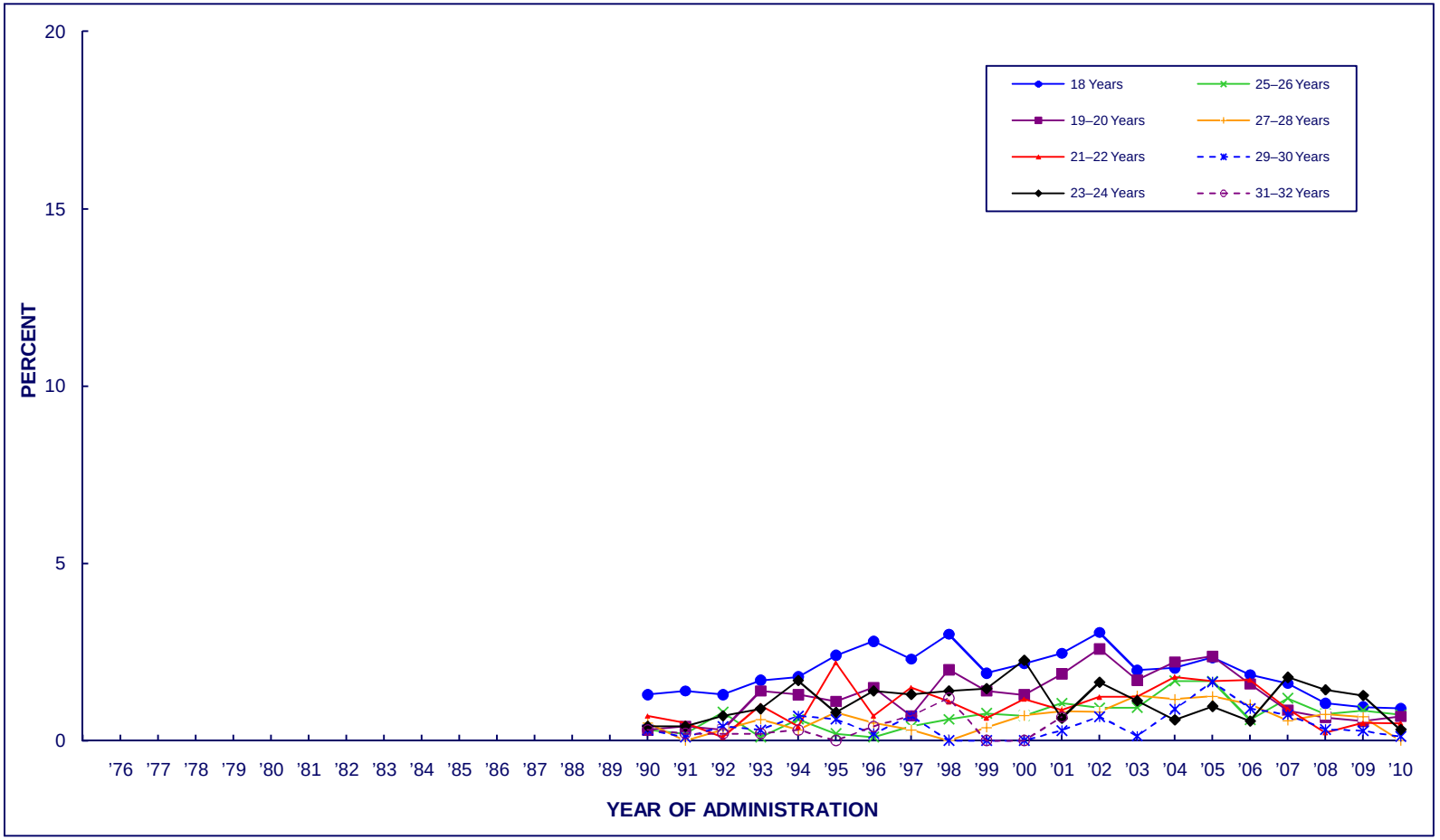
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	15.8	16.3	17.1	18.3	20.8	26.0	20.3	17.9	17.7	15.8	13.4	12.2	10.9	10.8	9.1	8.2	7.1	8.4	9.4	9.3	9.5	10.2	10.1	10.2	10.5	10.9	11.1	9.9	10.0	8.6	8.1	7.5	6.8	6.6	7.4
19–20			18.2	21.5	23.8	25.5	23.9	19.7	15.8	14.5	11.0	9.1	9.2	6.9	6.6	4.9	5.6	5.4	5.4	7.2	6.5	5.9	7.5	7.9	9.3	8.7	9.1	8.6	8.5	7.0	6.5	6.7	5.9	6.2	8.3
21–22					25.5	26.7	22.4	19.9	17.4	13.0	13.0	9.9	8.1	6.8	5.5	4.9	4.3	4.8	5.3	5.7	4.9	7.3	5.0	5.0	6.0	7.9	7.1	7.5	6.7	6.8	7.6	7.5	6.7	9.0	9.0
23–24							21.8	18.3	14.0	14.1	11.4	7.9	7.6	5.1	5.3	3.8	4.0	3.8	4.5	3.0	4.1	3.8	4.3	4.5	4.8	5.2	5.8	5.8	7.1	5.0	6.1	5.9	5.7	5.4	7.7
25–26									14.9	12.5	8.6	8.3	6.4	5.5	4.0	3.4	2.7	2.9	3.9	3.5	2.5	3.2	2.9	3.4	3.6	3.6	3.9	3.1	4.6	3.8	4.4	4.2	4.0	5.3	5.9
27–28											9.1	7.9	5.0	4.3	4.3	4.0	3.5	2.6	2.9	2.7	2.5	2.0	2.3	2.6	2.7	3.2	3.3	3.6	3.9	2.6	3.3	3.3	4.1	3.5	4.3
29–30													5.5	5.0	2.7	2.9	3.3	2.4	2.6	2.5	2.6	2.7	1.8	2.4	1.4	1.9	2.1	2.6	2.2	3.0	2.9	2.1	2.6	2.9	3.2
31–32[a]															3.7	3.7	2.6	2.4	2.5	1.5	2.7	2.6	2.6	1.9	1.9	1.5	—	—	—	—	—	—	—	—	—
35																			2.4	1.9	1.9	1.7	1.7	1.9	1.8	1.9	1.2	2.2	1.5	1.2	1.4	1.5	0.7	1.9	1.3
40																							1.7	1.2	1.4	1.0	1.4	1.0	1.1	0.8	1.6	0.8	1.1	0.9	0.7
45																												1.4	0.9	0.5	1.4	1.1	0.9	0.7	0.8
50																																	0.6	1.0	0.8

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-14

Crystal Methamphetamine (Ice): Trends in Annual Prevalence among Respondents of Modal Ages 18 through 32,[a] by Age Group



Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18															1.3	1.4	1.3	1.7	1.8	2.4	2.8	2.3	3.0	1.9	2.2	2.5	3.0	3.0	2.0	2.3	1.9	1.6	1.1	0.9	0.9
19–20															0.3	0.4	0.3	1.4	1.3	1.1	1.5	0.7	2.0	1.4	1.3	1.9	2.6	2.6	1.7	2.4	1.6	0.9	0.7	0.5	0.7
21–22															0.7	0.5	0.1	1.0	0.4	2.2	0.7	1.5	1.1	0.6	1.2	0.9	1.2	1.2	1.2	1.7	1.7	0.9	0.2	0.5	0.5
23–24															0.4	0.4	0.7	0.9	1.7	0.8	1.4	1.3	1.4	1.5	2.3	0.6	1.6	1.6	1.1	1.0	0.5	1.8	1.4	1.3	0.3
25–26															0.3	0.2	0.8	0.1	0.6	0.2	0.1	0.4	0.6	0.8	0.7	1.1	0.9	0.9	0.9	1.7	0.6	1.2	0.8	0.8	0.7
27–28															0.5	*	0.3	0.6	0.3	0.8	0.5	0.3	*	0.4	0.7	0.8	0.8	0.8	1.3	1.3	1.0	0.6	0.7	0.7	*
29–30															0.3	0.1	0.4	0.3	0.7	0.6	0.2	0.7	*	*	*	0.3	0.7	0.7	0.1	1.7	0.9	0.7	0.3	0.3	0.1
31–32[b]															0.3	0.2	0.2	0.2	0.3	*	0.4	0.7	1.2	*	*	0.7	—	—	—	—	—	—	—	—	—

Source. The Monitoring the Future study, the University of Michigan.

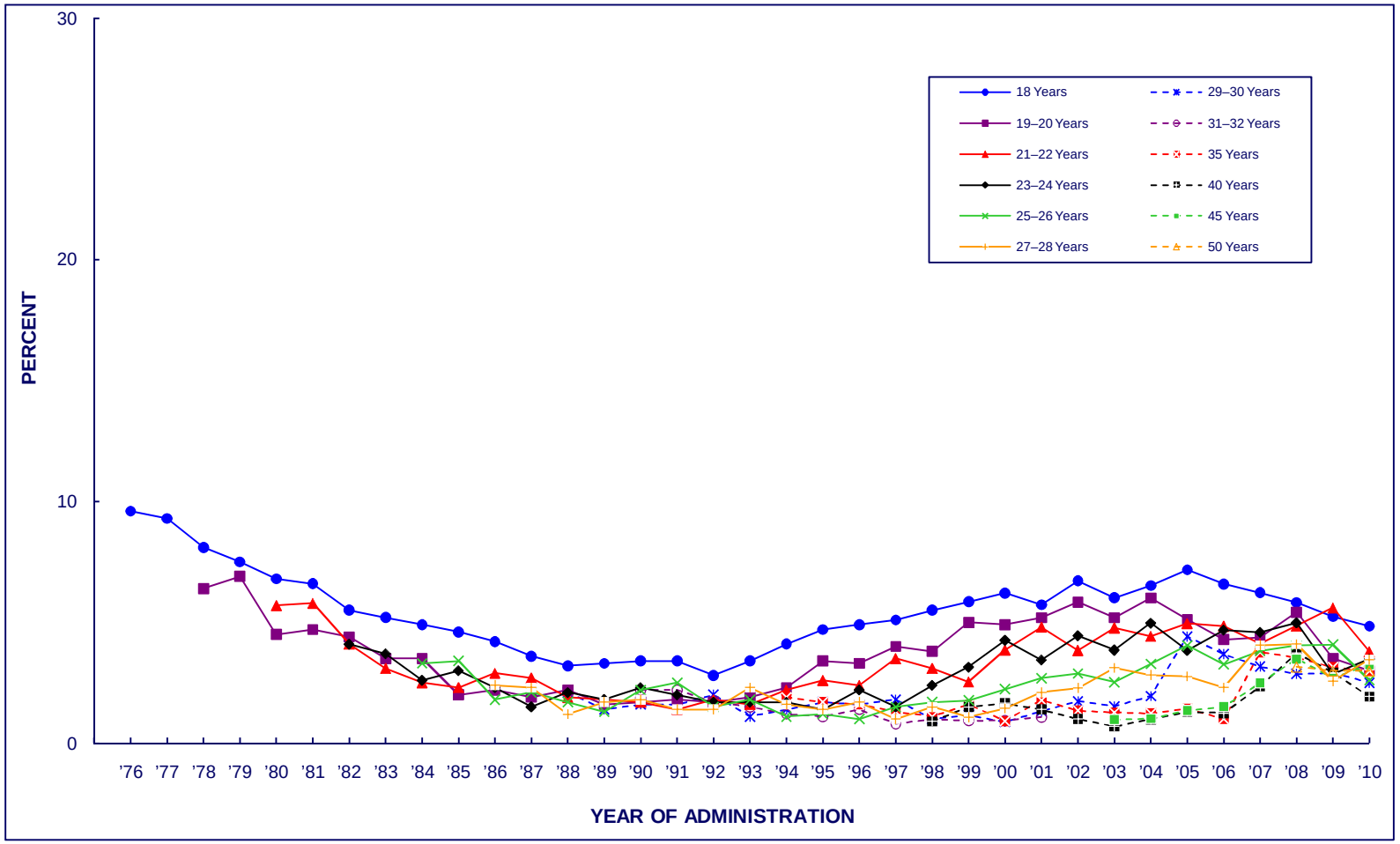
' * ' indicates a percentage of less than 0.05%.

[a]Questions about the use of crystal methamphetamine were not included in the questionnaires administered to the 35-, 40-, 45-, and 50-year-olds.

[b]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-15

Sedatives (Barbiturates): Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



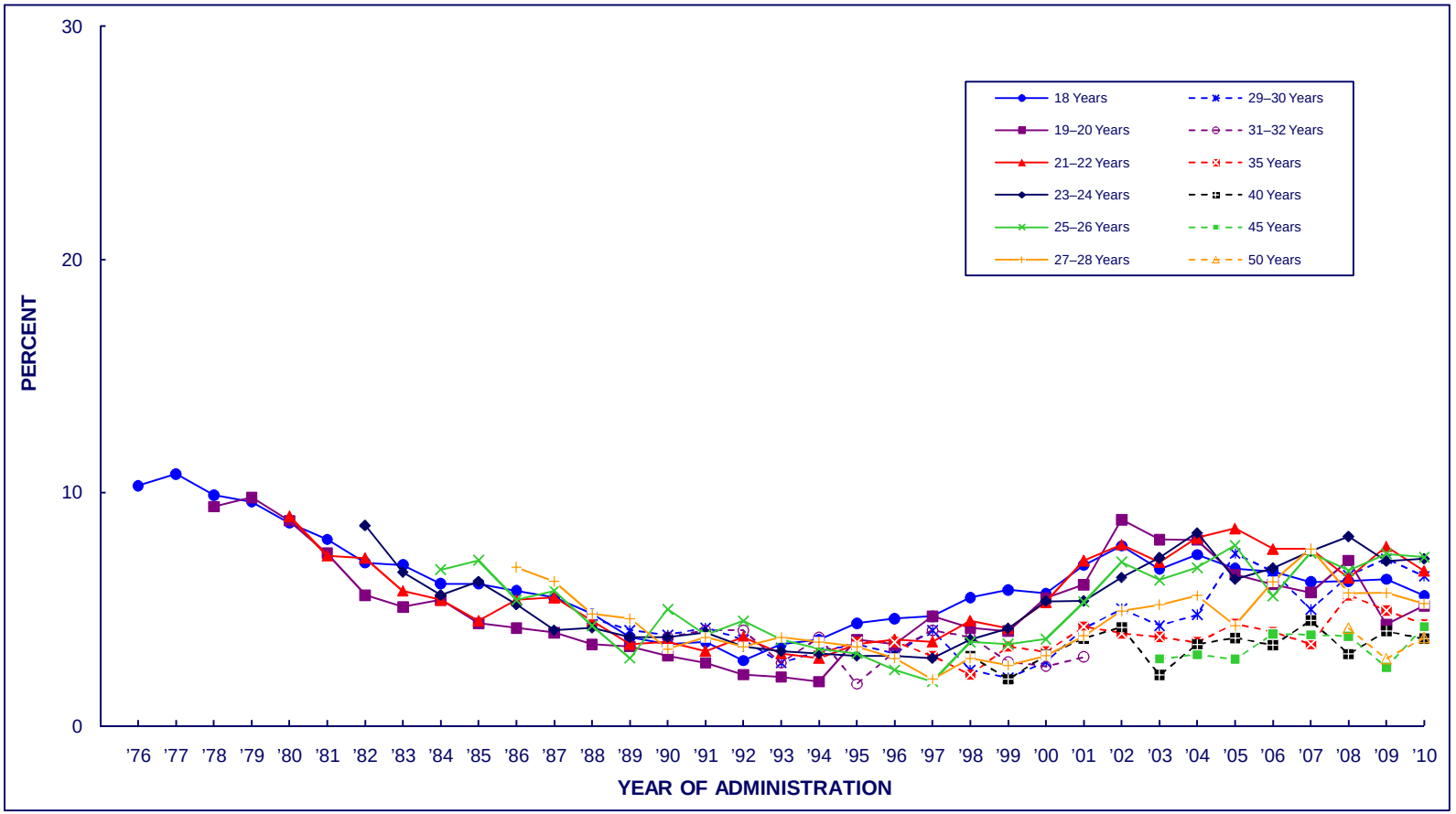
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	9.6	9.3	8.1	7.5	6.8	6.6	5.5	5.2	4.9	4.6	4.2	3.6	3.2	3.3	3.4	3.4	2.8	3.4	4.1	4.7	4.9	5.1	5.5	5.8	6.2	5.7	6.7	6.0	6.5	7.2	6.6	6.2	5.8	5.2	4.8
19–20			6.4	6.9	4.5	4.7	4.4	3.5	3.5	2.0	2.2	1.9	2.2	1.6	1.7	1.8	1.7	1.9	2.3	3.4	3.3	4.0	3.8	5.0	4.9	5.2	5.8	5.2	6.0	5.1	4.3	4.4	5.4	3.5	3.0
21–22					5.7	5.8	4.1	3.1	2.5	2.3	2.9	2.7	1.9	1.8	1.7	1.4	1.8	1.6	2.2	2.6	2.4	3.5	3.1	2.5	3.9	4.8	3.8	4.8	4.4	5.0	4.8	4.1	4.9	5.6	3.8
23–24							4.1	3.7	2.6	3.0	2.3	1.5	2.1	1.8	2.3	2.0	1.7	1.7	1.7	1.4	2.2	1.5	2.4	3.2	4.3	3.4	4.4	3.9	5.0	3.8	4.7	4.6	5.0	2.9	3.5
25–26									3.3	3.4	1.8	2.1	1.7	1.3	2.2	2.5	1.5	1.8	1.1	1.2	1.0	1.5	1.7	1.8	2.2	2.7	2.9	2.5	3.3	4.0	3.3	3.8	4.0	4.1	2.6
27–28											2.4	2.3	1.2	1.7	1.8	1.4	1.4	2.3	1.6	1.4	1.7	1.0	1.5	1.1	1.4	2.1	2.3	3.1	2.8	2.8	2.3	4.0	4.1	2.6	3.5
29–30													2.1	1.4	1.6	1.6	2.0	1.1	1.4	1.7	1.6	1.8	1.0	1.2	0.9	1.3	1.7	1.5	1.9	4.4	3.7	3.2	2.9	2.9	2.5
31–32[a]															2.2	2.2	1.7	1.5	1.2	1.1	1.4	0.8	1.0	0.9	0.9	1.1	—	—	—	—	—	—	—	—	—
35																			1.9	1.7	1.6	1.3	1.1	1.6	0.9	1.8	1.4	1.3	1.2	1.4	1.0	3.8	3.5	3.1	3.0
40																							0.9	1.5	1.6	1.4	1.0	0.7	1.0	1.3	1.2	2.4	3.7	2.9	1.9
45																												1.0	1.0	1.4	1.5	2.5	3.5	2.7	3.2
50																																	3.2	3.0	3.0

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-16

Tranquilizers: Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



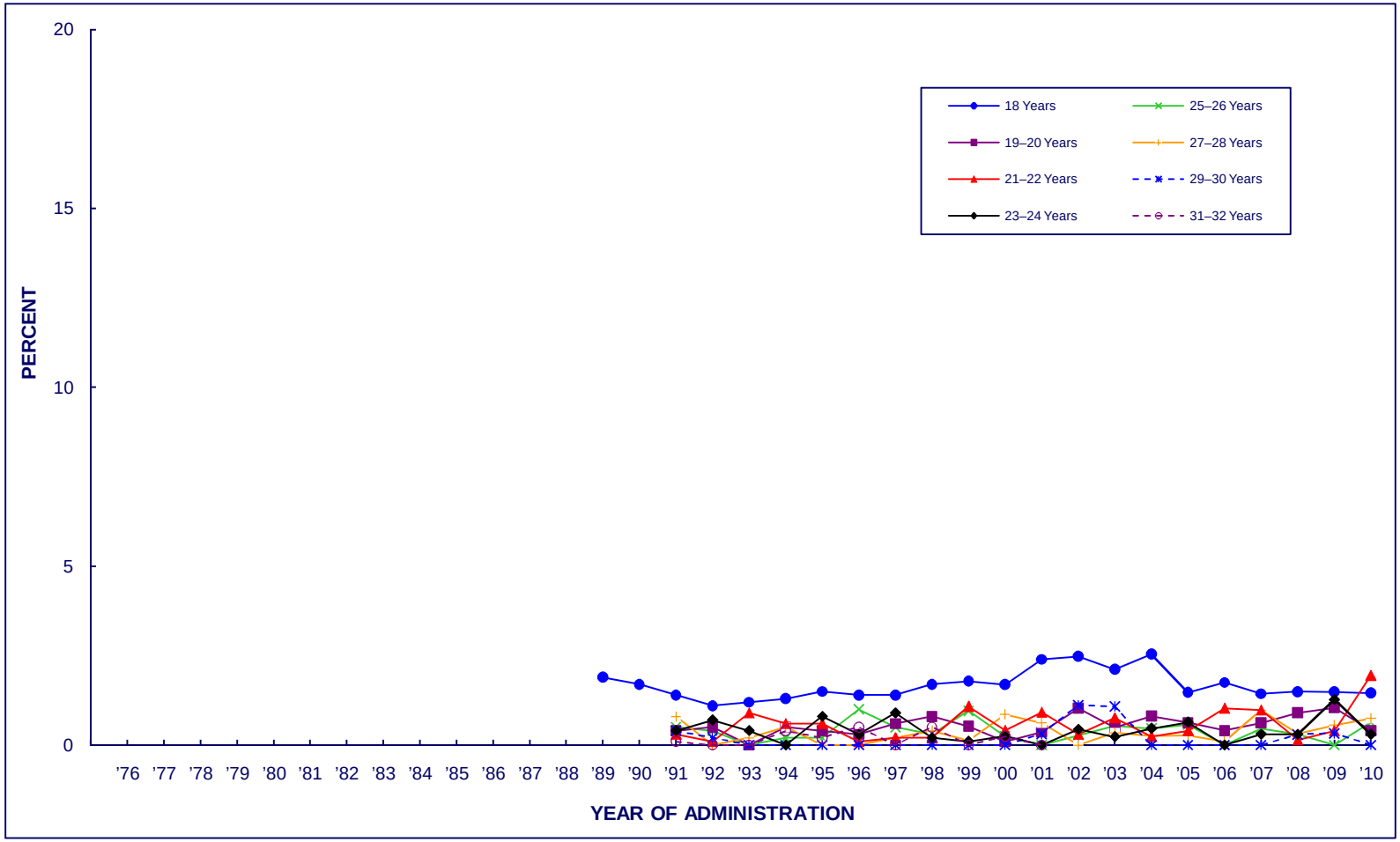
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	10.3	10.8	9.9	9.6	8.7	8.0	7.0	6.9	6.1	6.1	5.8	5.5	4.8	3.8	3.5	3.6	2.8	3.5	3.7	4.4	4.6	4.7	5.5	5.8	5.7	6.9	7.7	6.7	7.3	6.8	6.6	6.2	6.2	6.3	5.6
19–20			9.4	9.8	8.8	7.4	5.6	5.1	5.4	4.4	4.2	4.0	3.5	3.4	3.0	2.7	2.2	2.1	1.9	3.7	3.5	4.7	4.2	4.1	5.5	6.1	8.8	8.0	8.0	6.5	6.1	5.7	7.1	4.3	5.2
21–22					9.0	7.3	7.2	5.8	5.4	4.5	5.4	5.5	4.5	3.5	3.6	3.2	3.8	3.1	2.9	3.5	3.7	3.6	4.5	4.2	5.3	7.1	7.8	7.0	8.1	8.5	7.6	7.6	6.3	7.7	6.6
23–24							8.6	6.6	5.6	6.2	5.2	4.1	4.2	3.8	3.8	4.0	3.4	3.2	3.1	3.0	3.0	2.9	3.7	4.2	5.3	5.4	6.4	7.2	8.3	6.3	6.8	7.5	8.1	7.1	7.2
25–26									6.7	7.1	5.4	5.8	4.3	2.9	5.0	3.9	4.5	3.7	3.3	3.1	2.4	1.9	3.6	3.5	3.7	5.3	7.0	6.3	6.8	7.7	5.6	7.4	6.7	7.4	7.2
27–28											6.8	6.2	4.8	4.6	3.3	3.8	3.4	3.8	3.6	3.4	2.9	2.0	2.9	2.6	3.0	3.9	4.9	5.2	5.6	4.3	6.2	7.6	5.7	5.7	5.2
29–30													4.6	4.1	3.9	4.2	3.7	2.7	3.2	3.5	3.1	4.1	2.4	2.1	2.7	4.2	5.0	4.3	4.8	7.4	6.6	5.0	6.5	7.2	6.4
31–32[a]															3.8	4.1	4.1	2.7	3.8	1.8	3.2	4.1	3.8	2.7	2.6	3.0	—	—	—	—	—	—	—	—	—
35																			3.1	3.6	3.6	3.0	2.2	3.4	3.2	4.3	4.0	3.8	3.6	4.4	4.0	3.5	5.6	5.0	4.4
40																							3.0	2.0	3.0	3.7	4.2	2.2	3.5	3.8	3.5	4.5	3.1	4.1	3.7
45																												2.9	3.1	2.9	4.0	3.9	3.8	2.5	4.3
50																																	4.2	2.9	3.8

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-17

Steroids: Trends in Annual Prevalence among Respondents of Modal Ages 18 through 32,[a] by Age Group



Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18														1.9	1.7	1.4	1.1	1.2	1.3	1.5	1.4	1.4	1.7	1.8	1.7	2.4	2.5	2.1	2.5	1.5	1.8	1.4	1.5	1.5	1.5
19–20																0.4	0.5	*	0.5	0.4	0.3	0.6	0.8	0.5	0.1	0.4	1.0	0.5	0.8	0.6	0.4	0.6	0.9	1.0	0.4
21–22																0.3	0.1	0.9	0.6	0.6	0.1	0.2	0.2	1.1	0.4	0.9	0.3	0.8	0.2	0.4	1.0	1.0	0.1	0.4	1.9
23–24																0.4	0.7	0.4	*	0.8	0.3	0.9	0.2	0.1	0.3	*	0.4	0.2	0.5	0.6	*	0.3	0.3	1.3	0.3
25–26																0.5	0.4	*	0.2	0.2	1.0	0.5	0.3	1.0	0.2	*	0.3	0.5	0.5	0.6	*	0.5	0.3	*	0.6
27–28																0.8	*	0.2	0.5	*	*	0.2	0.4	0.1	0.9	0.6	*	0.3	0.3	0.3	0.1	1.0	0.3	0.6	0.7
29–30																0.4	0.2	*	*	*	*	*	*	*	*	0.3	1.1	1.1	*	*	*	*	0.3	0.3	*
31–32[b]																0.1	*	*	0.4	0.2	0.5	*	0.5	*	0.2	*	—	—	—	—	—	—	—	—	—

Source. The Monitoring the Future study, the University of Michigan.

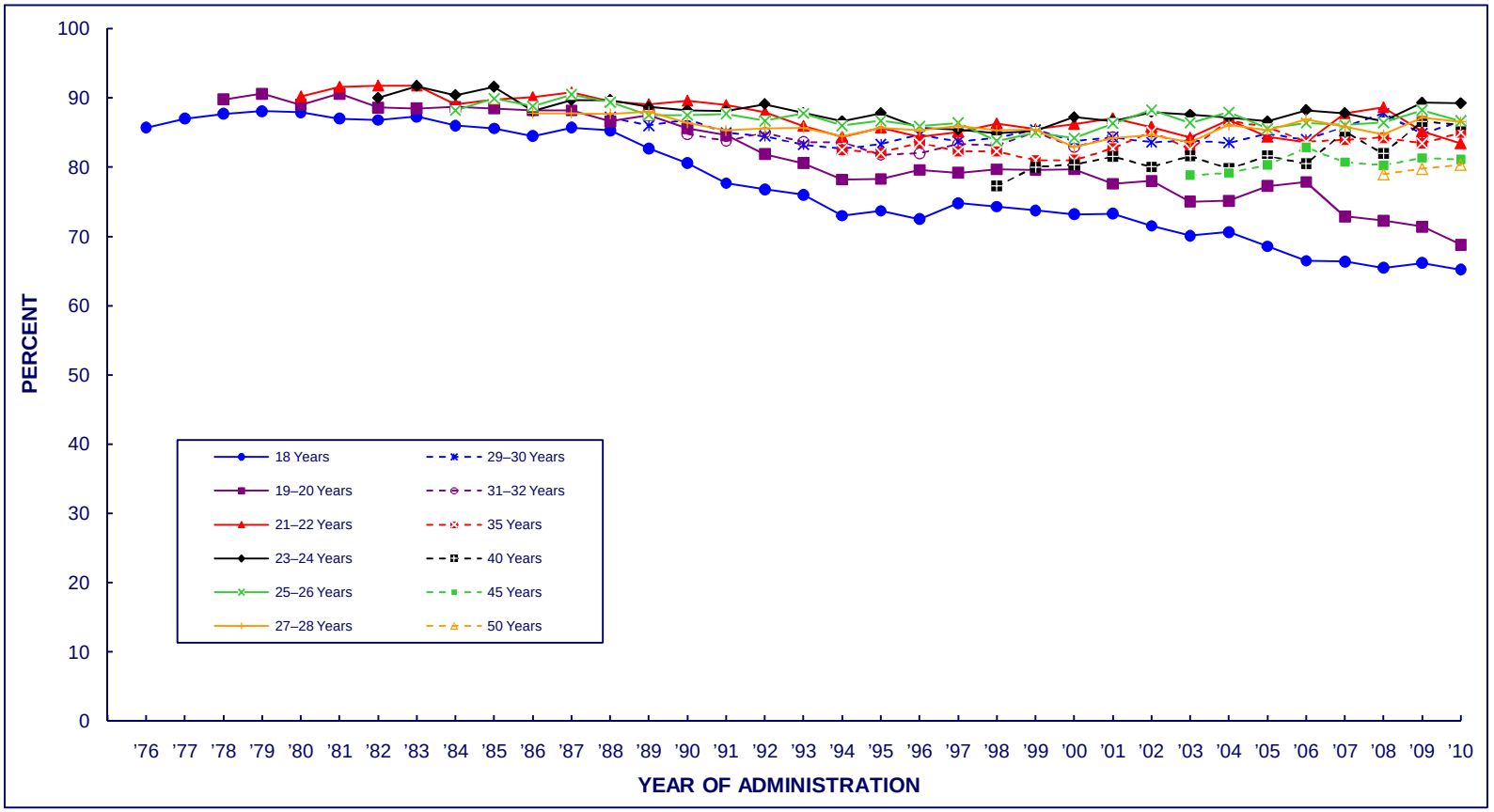
' * ' indicates a percentage of less than 0.05%.

[a]Questions about the use of steroids were not included in the questionnaires administered to the 35-, 40-, 45-, and 50-year-olds.

[b]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-18a

Alcohol: Trends in Annual Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



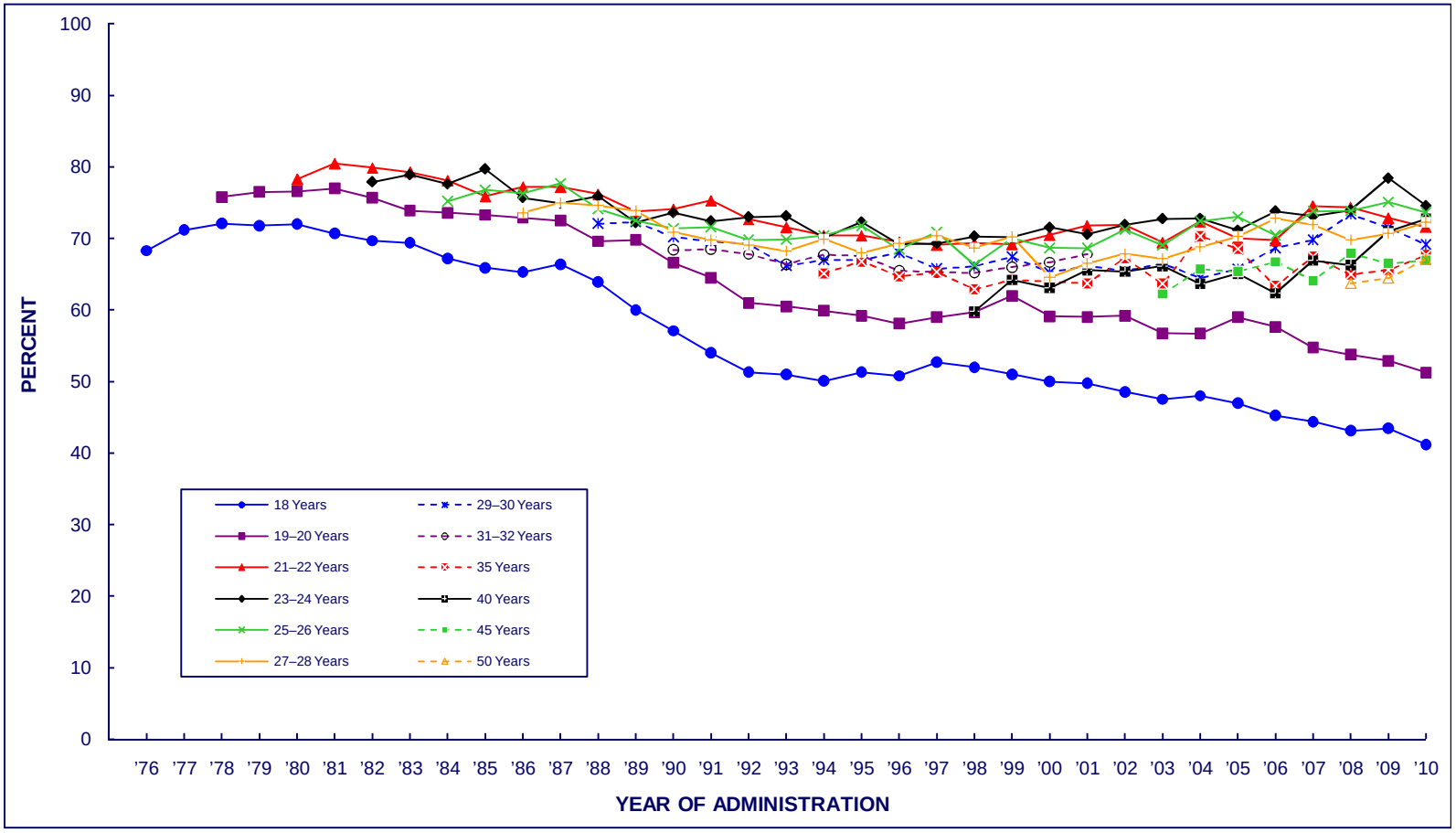
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	85.7	87.0	87.7	88.1	87.9	87.0	86.8	87.3	86.0	85.6	84.5	85.7	85.3	82.7	80.6	77.7	76.8	76.0	73.0	73.7	72.5	74.8	74.3	73.8	73.2	73.3	71.5	70.1	70.6	68.6	66.5	66.4	65.5	66.2	65.2
19–20			89.8	90.6	89.0	90.6	88.6	88.5	88.7	88.5	88.2	88.2	86.6	87.5	85.6	84.6	81.9	80.6	78.2	78.3	79.6	79.2	79.7	79.6	79.7	77.6	78.0	75.0	75.2	77.3	77.9	72.9	72.3	71.4	68.8
21–22					90.2	91.6	91.8	91.8	89.1	89.8	90.1	90.8	89.5	89.1	89.6	89.0	87.9	85.9	84.4	85.7	84.4	85.1	86.3	85.5	86.2	87.0	85.8	84.3	86.8	84.4	83.6	87.8	88.6	85.2	83.4
23–24							90.0	91.7	90.4	91.6	88.1	89.7	89.7	88.7	88.2	88.1	89.1	87.8	86.6	87.8	85.7	85.4	84.9	85.2	87.2	86.7	88.0	87.6	87.2	86.6	88.2	87.8	86.6	89.3	89.2
25–26									88.2	89.9	88.8	90.5	89.4	87.5	87.5	87.7	86.7	87.8	86.0	86.7	85.9	86.4	83.8	85.0	84.2	86.3	88.3	86.4	87.9	85.6	86.4	86.1	86.4	88.2	86.7
27–28											87.8	87.8	87.7	88.0	86.4	85.3	85.6	85.7	84.5	85.7	85.3	85.9	85.3	85.4	82.9	84.2	84.7	83.6	86.1	85.3	86.9	85.8	84.7	87.2	86.6
29–30													87.2	86.0	86.9	85.0	84.5	83.2	82.6	83.3	84.7	83.7	84.2	85.4	83.7	84.3	83.6	83.9	83.5	84.8	84.0	85.9	87.8	84.8	86.7
31–32[a]															84.8	83.8	85.0	83.6	83.6	81.8	82.0	83.3	83.2	85.1	82.9	84.4	—	—	—	—	—	—	—	—	—
35																			82.5	82.1	83.5	82.3	82.3	81.0	81.0	82.7	85.1	82.6	86.7	85.8	83.7	84.0	84.3	83.5	85.0
40																							77.3	80.0	80.3	81.5	80.0	81.6	79.8	81.6	80.5	85.2	82.0	86.6	86.1
45																												78.9	79.2	80.3	82.8	80.7	80.3	81.3	81.1
50																																	79.0	79.7	80.3

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-18b

Alcohol: Trends in 30-Day Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



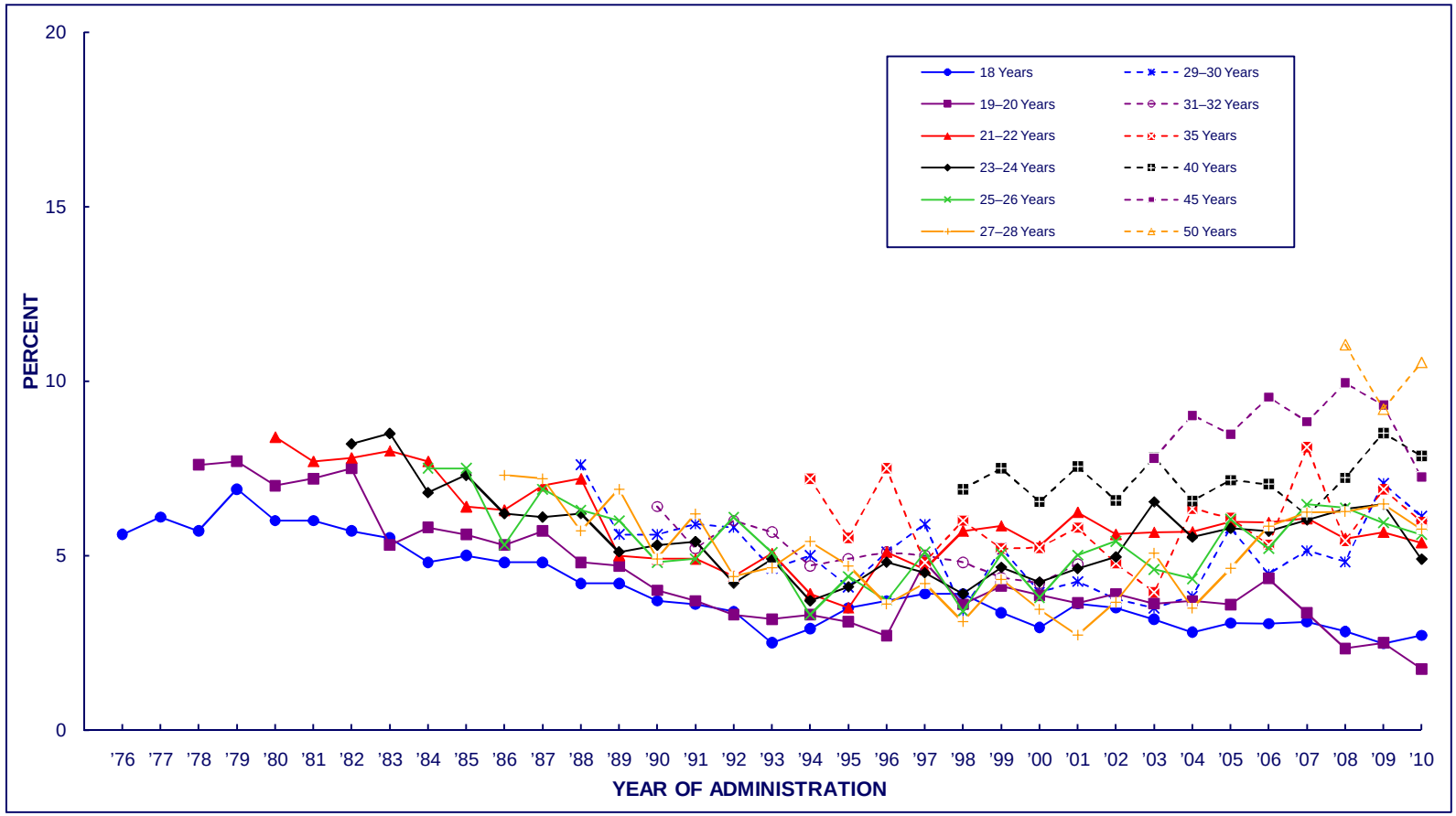
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	68.3	71.2	72.1	71.8	72.0	70.7	69.7	69.4	67.2	65.9	65.3	66.4	63.9	60.0	57.1	54.0	51.3	51.0	50.1	51.3	50.8	52.7	52.0	51.0	50.0	49.8	48.6	47.5	48.0	47.0	45.3	44.4	43.1	43.5	41.2
19–20			75.8	76.5	76.6	77.0	75.7	73.9	73.6	73.3	72.9	72.5	69.6	69.8	66.6	64.5	61.0	60.5	59.9	59.2	58.1	59.0	59.7	62.0	59.1	59.0	59.2	56.7	56.7	59.0	57.6	54.7	53.8	52.9	51.2
21–22					78.3	80.5	79.9	79.3	78.1	75.9	77.2	77.2	76.2	73.8	74.1	75.3	72.7	71.6	70.4	70.4	69.5	69.1	69.4	69.2	70.5	71.8	71.9	69.5	72.4	70.1	69.7	74.5	74.4	72.9	71.6
23–24							77.9	78.9	77.6	79.7	75.7	74.9	75.9	72.2	73.6	72.4	73.0	73.1	70.1	72.3	69.2	69.3	70.3	70.2	71.5	70.6	71.9	72.7	72.8	71.2	73.8	73.1	74.0	78.4	74.6
25–26									75.2	76.8	76.3	77.7	74.1	72.5	71.4	71.6	69.8	69.9	70.4	71.8	68.5	70.9	66.3	70.0	68.7	68.7	71.2	69.1	72.4	73.0	70.4	73.8	73.9	75.1	73.6
27–28											73.6	75.0	74.6	73.9	70.9	69.8	69.1	68.3	69.9	68.0	69.3	70.4	68.7	70.2	64.6	66.5	67.9	67.2	68.8	70.3	72.8	71.9	69.8	70.7	72.2
29–30													72.1	72.3	70.2	69.6	69.2	66.2	67.0	67.0	68.0	65.8	66.1	67.4	65.2	66.2	65.4	66.5	64.5	65.7	68.7	69.8	73.4	71.5	69.1
31–32[a]															68.4	68.5	67.8	66.4	67.7	67.6	65.5	65.3	65.2	66.0	66.7	67.8	—	—	—	—	—	—	—	—	—
35																			65.1	66.8	64.7	65.3	62.9	64.2	64.0	63.7	67.3	63.7	70.3	68.5	63.3	67.5	65.0	65.6	67.7
40																							59.8	64.2	63.1	65.6	65.4	66.2	63.7	65.1	62.3	66.9	66.3	71.0	72.7
45																												62.2	65.7	65.4	66.7	64.1	67.9	66.5	67.0
50																																	63.7	64.5	67.1

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-18c

Alcohol: Trends in 30-Day Prevalence of Daily Use among Respondents of Modal Ages 18 through 50, by Age Group



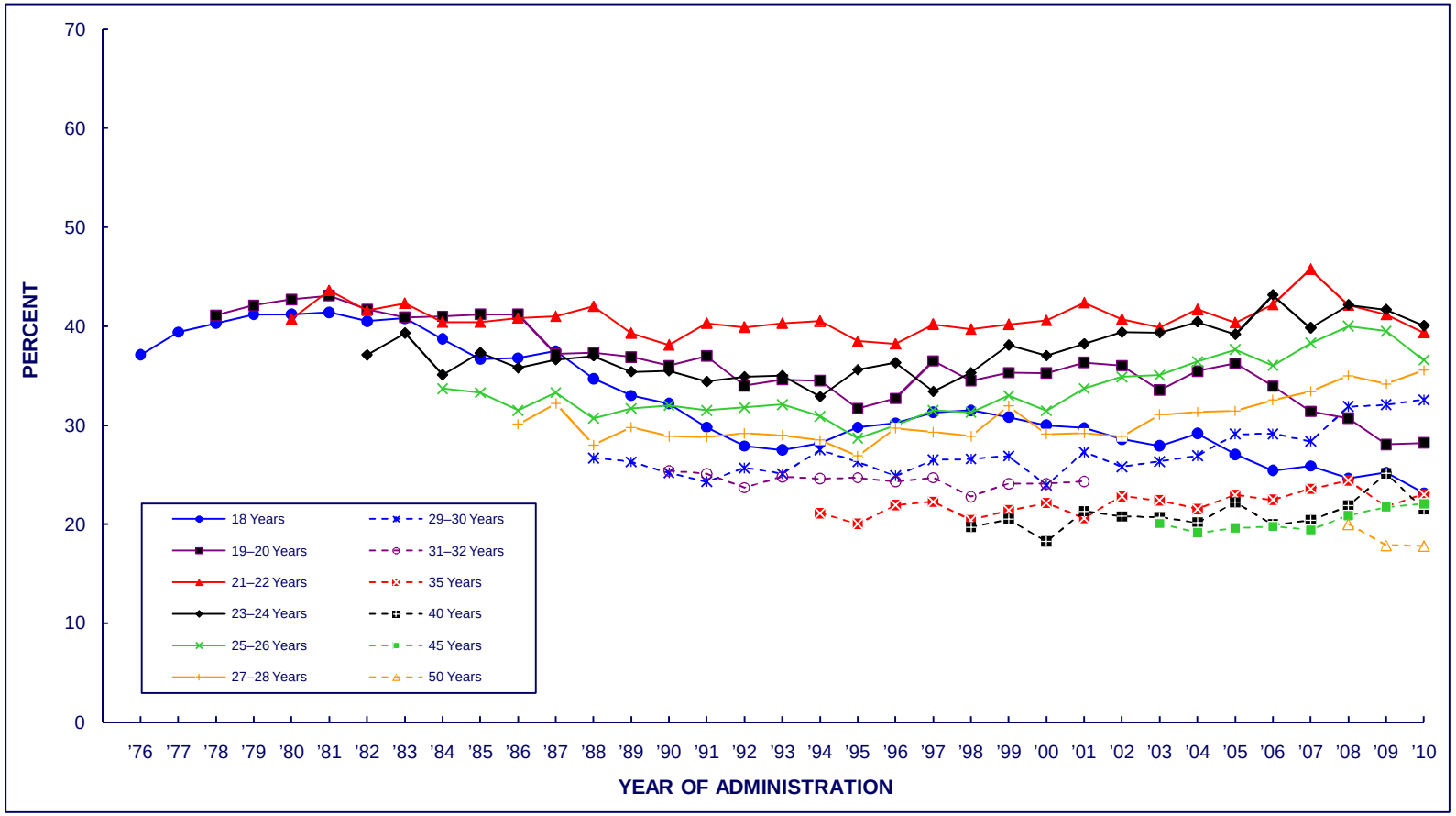
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	5.6	6.1	5.7	6.9	6.0	6.0	5.7	5.5	4.8	5.0	4.8	4.8	4.2	4.2	3.7	3.6	3.4	2.5	2.9	3.5	3.7	3.9	3.9	3.4	2.9	3.6	3.5	3.2	2.8	3.1	3.0	3.1	2.8	2.5	2.7
19–20			7.6	7.7	7.0	7.2	7.5	5.3	5.8	5.6	5.3	5.7	4.8	4.7	4.0	3.7	3.3	3.2	3.3	3.1	2.7	4.8	3.6	4.1	3.9	3.6	3.9	3.6	3.7	3.6	4.3	3.4	2.3	2.5	1.8
21–22					8.4	7.7	7.8	8.0	7.7	6.4	6.3	7.0	7.2	5.0	4.9	4.9	4.4	5.1	3.9	3.5	5.1	4.6	5.7	5.9	5.3	6.2	5.6	5.7	5.7	6.0	5.9	6.1	5.5	5.7	5.4
23–24							8.2	8.5	6.8	7.3	6.2	6.1	6.2	5.1	5.3	5.4	4.2	4.9	3.7	4.1	4.8	4.5	3.9	4.7	4.2	4.6	5.0	6.5	5.5	5.8	5.7	6.0	6.3	6.5	4.9
25–26									7.5	7.5	5.3	6.9	6.3	6.0	4.8	4.9	6.1	5.1	3.3	4.4	3.7	5.1	3.4	5.1	3.8	5.0	5.4	4.6	4.3	6.0	5.2	6.5	6.4	5.9	5.6
27–28											7.3	7.2	5.7	6.9	4.9	6.2	4.4	4.7	5.4	4.7	3.6	4.2	3.1	4.3	3.5	2.7	3.7	5.1	3.5	4.6	5.8	6.2	6.3	6.5	5.7
29–30													7.6	5.6	5.6	5.9	5.8	4.6	5.0	4.1	5.1	5.9	3.4	5.2	3.9	4.3	3.8	3.5	3.8	5.8	4.5	5.1	4.8	7.1	6.1
31–32[a]															6.4	5.2	6.0	5.7	4.7	4.9	5.1	5.0	4.8	4.4	4.2	4.7	—	—	—	—	—	—	—	—	—
35																			7.2	5.5	7.5	4.8	6.0	5.2	5.2	5.8	4.8	3.9	6.3	6.1	5.3	8.1	5.4	6.9	6.0
40																							6.9	7.5	6.5	7.5	6.6	7.8	6.6	7.2	7.0	6.1	7.2	8.5	7.8
45																												7.8	9.0	8.5	9.5	8.8	9.9	9.3	7.2
50																																	11.0	9.2	10.5

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-18d

Alcohol: Trends in 2-Week Prevalence of Having 5 or More Drinks in a Row among Respondents of Modal Ages 18 through 50, by Age Group



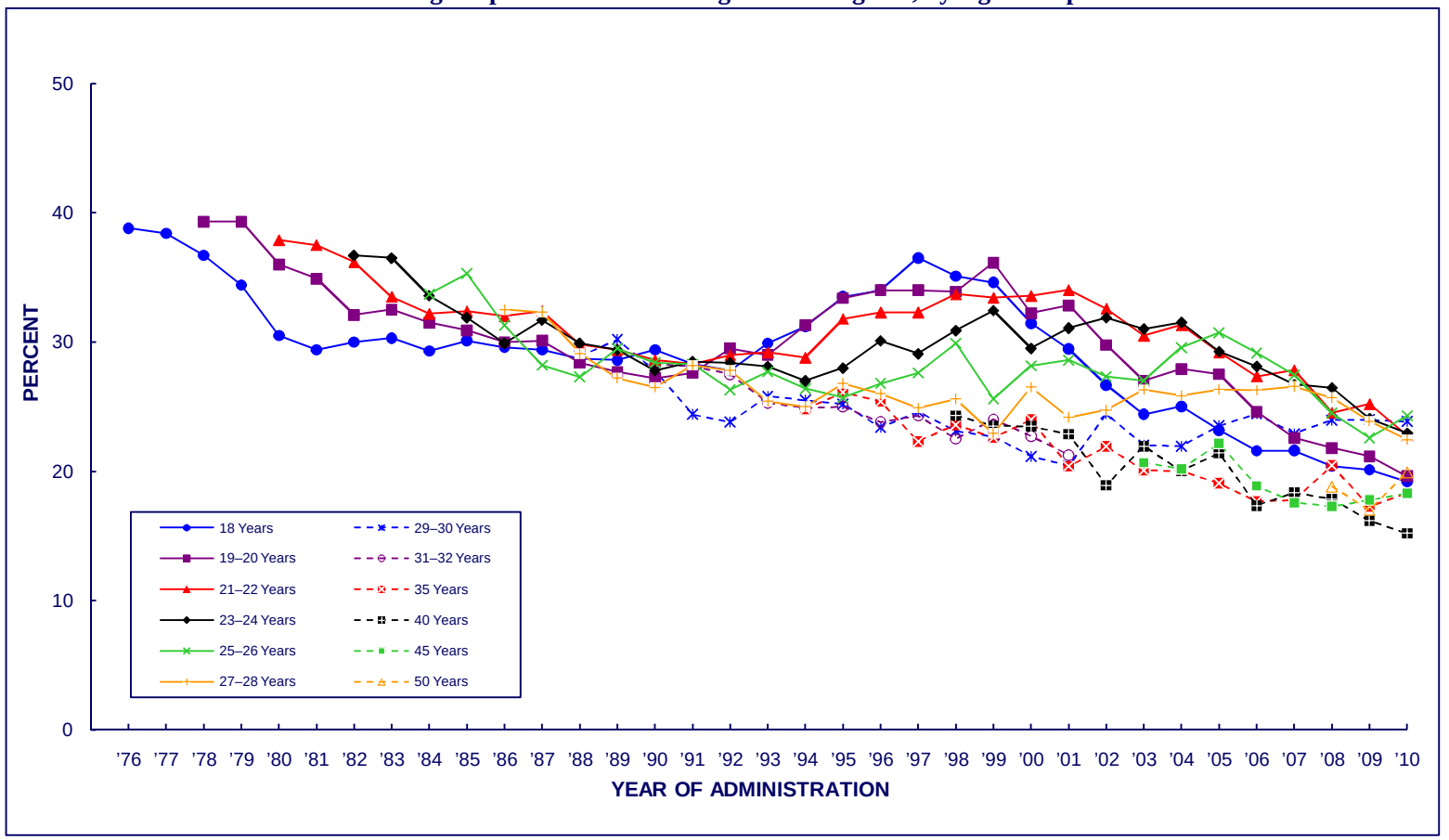
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	37.1	39.4	40.3	41.2	41.2	41.4	40.5	40.8	38.7	36.7	36.8	37.5	34.7	33.0	32.2	29.8	27.9	27.5	28.2	29.8	30.2	31.3	31.5	30.8	30.0	29.7	28.6	27.9	29.2	27.1	25.4	25.9	24.6	25.2	23.2
19–20			41.1	42.1	42.7	43.1	41.7	40.9	41.0	41.2	41.2	37.2	37.3	36.9	36.0	37.0	34.0	34.6	34.5	31.7	32.7	36.5	34.5	35.3	35.3	36.3	36.0	33.6	35.5	36.3	33.9	31.4	30.7	28.1	28.2
21–22					40.7	43.6	41.6	42.3	40.4	40.4	40.8	41.0	42.0	39.3	38.1	40.3	39.9	40.3	40.5	38.5	38.2	40.2	39.7	40.2	40.6	42.4	40.7	39.9	41.7	40.4	42.2	45.8	42.1	41.2	39.3
23–24							37.1	39.3	35.1	37.3	35.8	36.6	37.0	35.4	35.5	34.4	34.9	35.0	32.9	35.6	36.3	33.4	35.3	38.1	37.0	38.2	39.4	39.3	40.4	39.2	43.2	39.8	42.2	41.7	40.1
25–26									33.7	33.3	31.5	33.3	30.7	31.7	32.0	31.5	31.8	32.1	30.9	28.7	30.0	31.5	31.3	33.0	31.5	33.7	34.9	35.1	36.4	37.7	36.0	38.3	40.0	39.5	36.6
27–28											30.1	32.2	28.0	29.8	28.9	28.8	29.2	29.0	28.5	26.9	29.7	29.3	28.9	32.0	29.1	29.2	28.9	31.1	31.3	31.5	32.5	33.4	35.0	34.2	35.6
29–30													26.7	26.3	25.2	24.3	25.7	25.1	27.5	26.3	24.9	26.5	26.6	26.9	24.0	27.3	25.8	26.4	26.9	29.1	29.1	28.4	31.9	32.1	32.6
31–32[a]															25.4	25.1	23.7	24.8	24.6	24.7	24.3	24.7	22.8	24.1	24.1	24.3	—	—	—	—	—	—	—	—	—
35																			21.1	20.0	21.9	22.3	20.4	21.4	22.2	20.6	22.9	22.4	21.6	23.0	22.5	23.6	24.4	21.8	23.0
40																							19.7	20.5	18.3	21.3	20.8	20.7	20.2	22.2	20.0	20.4	21.9	25.1	21.6
45																												20.1	19.2	19.6	19.8	19.4	20.9	21.8	22.1
50																																	20.0	17.9	17.8

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-19a

Cigarettes: Trends in 30-Day Prevalence among Respondents of Modal Ages 18 through 50, by Age Group



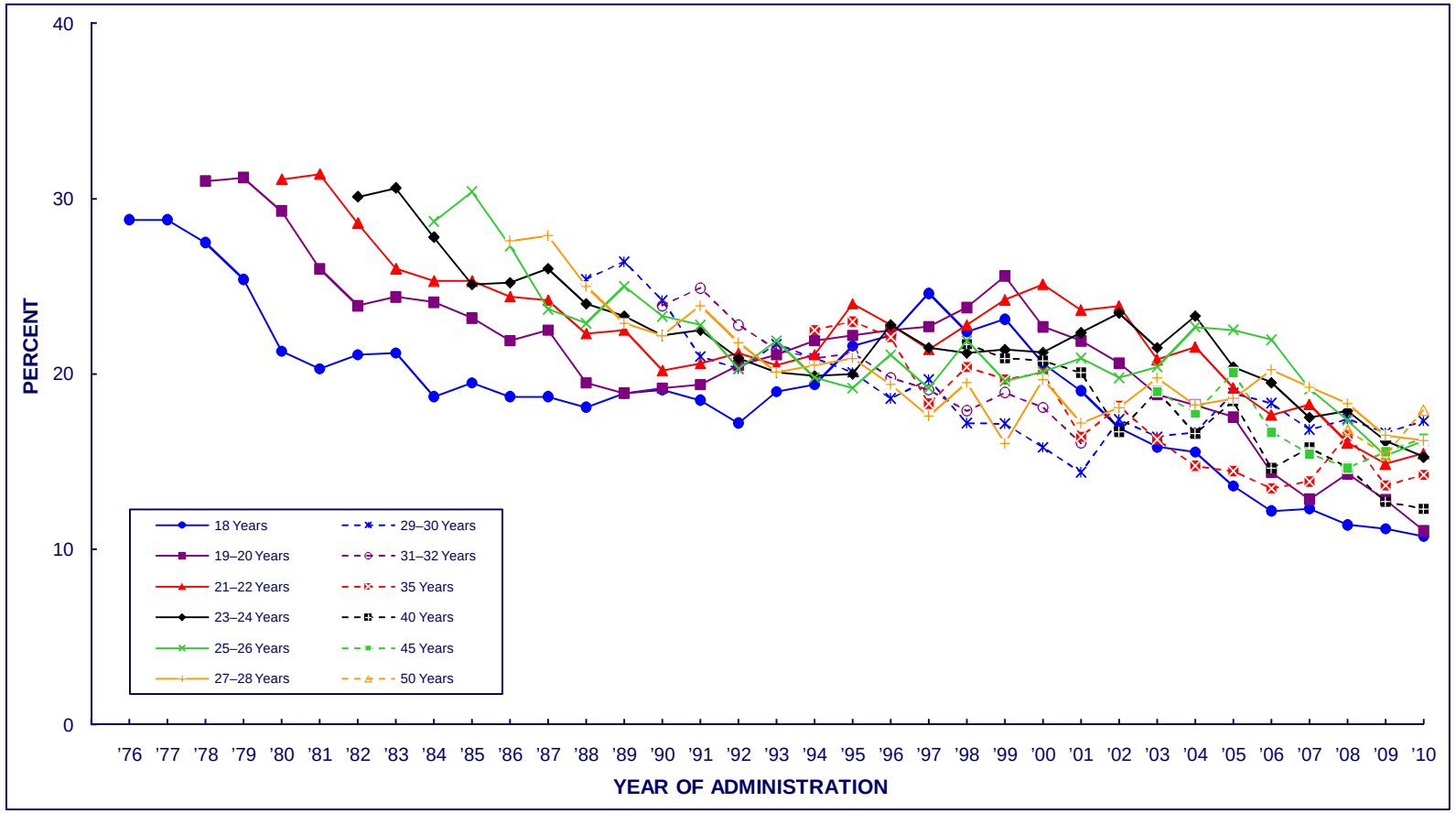
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	38.8	38.4	36.7	34.4	30.5	29.4	30.0	30.3	29.3	30.1	29.6	29.4	28.7	28.6	29.4	28.3	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	31.4	29.5	26.7	24.4	25.0	23.2	21.6	21.6	20.4	20.1	19.2
19–20			39.3	39.3	36.0	34.9	32.1	32.5	31.5	30.9	30.0	30.1	28.4	27.7	27.2	27.6	29.5	29.0	31.3	33.4	34.0	34.0	33.9	36.1	32.2	32.8	29.8	27.0	27.9	27.5	24.6	22.6	21.8	21.2	19.6
21–22					37.9	37.5	36.2	33.5	32.2	32.4	32.0	32.4	29.8	29.4	28.6	28.3	29.0	29.2	28.8	31.8	32.3	32.3	33.7	33.4	33.6	34.0	32.6	30.5	31.3	29.2	27.3	27.8	24.5	25.2	22.8
23–24							36.7	36.5	33.6	31.9	29.9	31.7	29.9	29.4	27.8	28.5	28.4	28.1	27.0	28.0	30.1	29.1	30.9	32.4	29.5	31.1	31.9	31.0	31.5	29.3	28.1	26.7	26.5	24.1	23.0
25–26									33.7	35.3	31.3	28.2	27.3	29.5	28.4	28.3	26.3	27.7	26.4	25.7	26.8	27.6	29.9	25.6	28.2	28.6	27.3	27.0	29.6	30.7	29.1	27.5	24.5	22.6	24.3
27–28											32.5	32.3	29.1	27.2	26.5	28.2	27.8	25.4	25.0	26.8	26.0	24.9	25.6	22.9	26.5	24.2	24.7	26.3	25.9	26.3	26.3	26.6	25.7	23.9	22.5
29–30													28.9	30.2	27.8	24.4	23.8	25.8	25.5	25.2	23.4	24.6	23.1	22.7	21.2	20.4	24.4	22.0	21.9	23.5	24.4	22.9	24.0	24.0	23.9
31–32[a]															28.3	28.1	27.5	25.3	24.9	25.0	23.8	24.3	22.5	24.0	22.7	21.2	—	—	—	—	—	—	—	—	—
35																			24.8	26.1	25.4	22.3	23.6	22.6	24.0	20.4	21.9	20.1	20.0	19.1	17.7	17.8	20.4	17.3	18.3
40																							24.3	23.5	23.5	22.9	18.9	21.9	20.0	21.4	17.3	18.3	17.8	16.2	15.2
45																												20.7	20.2	22.1	18.9	17.6	17.3	17.8	18.3
50																																	18.8	17.0	19.9

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-19b

Cigarettes: Trends in 30-Day Prevalence of Daily Use among Respondents of Modal Ages 18 through 50, by Age Group



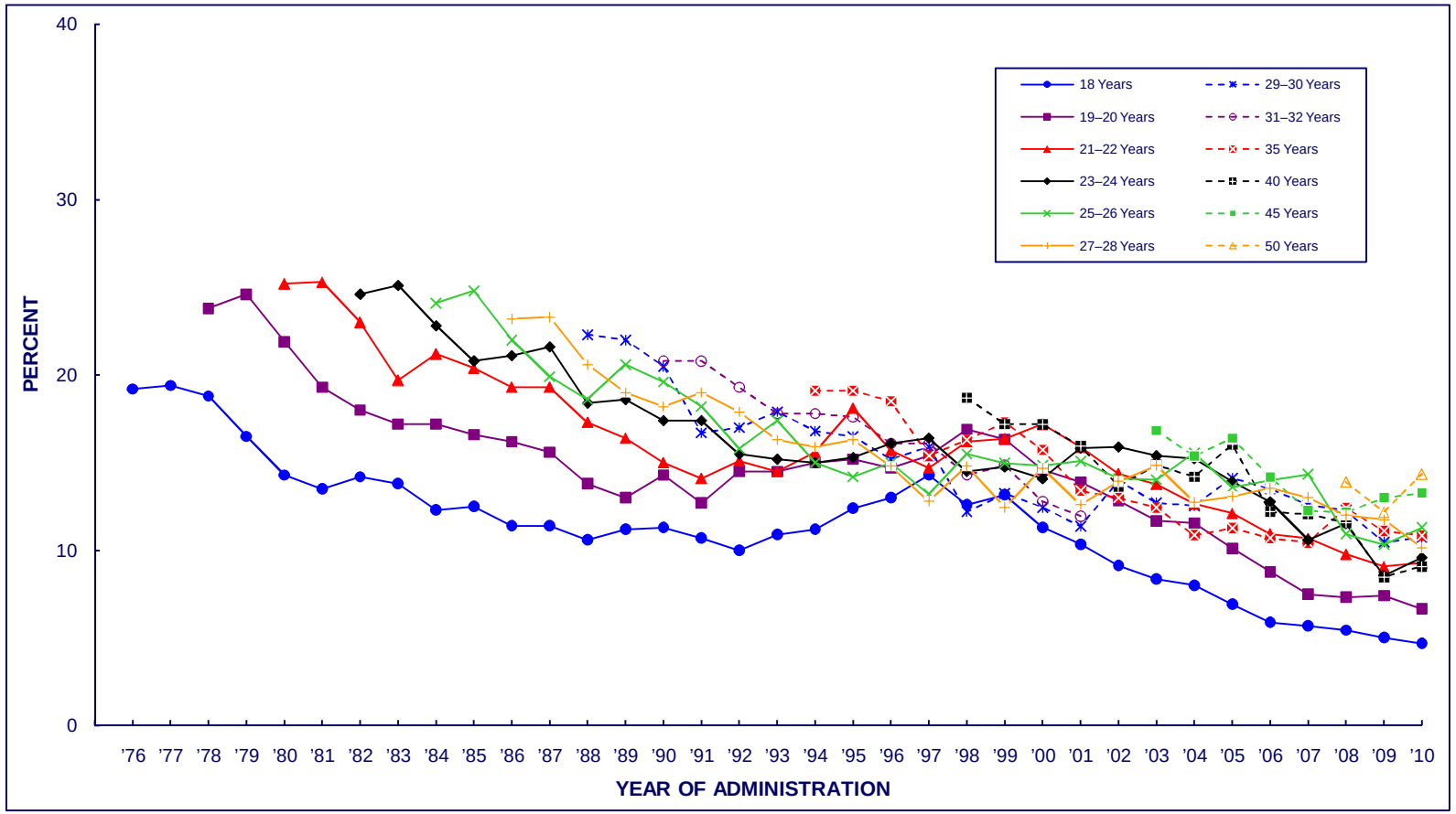
Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	28.8	28.8	27.5	25.4	21.3	20.3	21.1	21.2	18.7	19.5	18.7	18.7	18.1	18.9	19.1	18.5	17.2	19.0	19.4	21.6	22.2	24.6	22.4	23.1	20.6	19.0	16.9	15.8	15.6	13.6	12.2	12.3	11.4	11.2	10.7
19–20			31.0	31.2	29.3	26.0	23.9	24.4	24.1	23.2	21.9	22.5	19.5	18.9	19.2	19.4	20.5	21.1	21.9	22.2	22.5	22.7	23.8	25.6	22.7	21.9	20.6	18.8	18.2	17.6	14.4	12.9	14.3	12.8	11.1
21–22					31.1	31.4	28.6	26.0	25.3	25.3	24.4	24.2	22.3	22.5	20.2	20.6	21.2	20.5	21.1	24.0	22.8	21.4	22.8	24.2	25.1	23.6	23.9	20.8	21.5	19.2	17.7	18.3	16.1	14.9	15.5
23–24							30.1	30.6	27.8	25.1	25.2	26.0	24.0	23.3	22.2	22.5	20.9	20.1	19.9	20.0	22.8	21.5	21.2	21.4	21.2	22.4	23.5	21.5	23.3	20.4	19.5	17.5	17.9	16.2	15.3
25–26									28.7	30.4	27.3	23.7	22.9	25.0	23.3	22.8	20.3	21.9	19.8	19.2	21.1	19.2	21.9	19.6	20.1	20.9	19.8	20.4	22.7	22.5	22.0	19.2	17.4	15.3	16.2
27–28											27.6	27.9	25.0	22.9	22.2	23.9	21.8	20.1	20.5	20.9	19.4	17.6	19.5	16.0	19.7	17.2	18.1	19.8	18.2	18.6	20.2	19.3	18.3	16.5	16.2
29–30													25.4	26.4	24.2	21.0	20.3	21.7	20.9	20.1	18.6	19.7	17.2	17.2	15.8	14.4	17.4	16.4	16.7	18.9	18.3	16.8	17.4	16.7	17.3
31–32[a]															23.9	24.9	22.8	21.4	20.9	21.2	19.8	19.1	17.9	18.9	18.1	16.1	—	—	—	—	—	—	—	—	—
35																			22.5	23.0	22.1	18.3	20.4	19.7	20.1	16.4	18.2	16.3	14.8	14.5	13.5	13.9	16.5	13.7	14.3
40																							21.7	20.9	20.8	20.1	16.7	19.0	16.6	18.5	14.6	15.8	14.7	12.7	12.3
45																												19.0	17.8	20.1	16.7	15.4	14.6	15.6	16.4
50																																	16.8	15.4	18.0

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

FIGURE 5-19c

Cigarettes: Trends in 30-Day Prevalence of Smoking a Half Pack or More per Day among Respondents of Modal Ages 18 through 50, by Age Group



Age	'76	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10
18	19.2	19.4	18.8	16.5	14.3	13.5	14.2	13.8	12.3	12.5	11.4	11.4	10.6	11.2	11.3	10.7	10.0	10.9	11.2	12.4	13.0	14.3	12.6	13.2	11.3	10.3	9.1	8.4	8.0	6.9	5.9	5.7	5.4	5.0	4.7
19–20			23.8	24.6	21.9	19.3	18.0	17.2	17.2	16.6	16.2	15.6	13.8	13.0	14.3	12.7	14.5	14.5	15.0	15.2	14.7	15.4	16.9	16.3	14.6	13.9	12.8	11.7	11.6	10.1	8.8	7.5	7.3	7.4	6.7
21–22					25.2	25.3	23.0	19.7	21.2	20.4	19.3	19.3	17.3	16.4	15.0	14.1	15.1	14.5	15.6	18.1	15.7	14.7	16.2	16.4	17.2	15.9	14.4	13.8	12.7	12.1	10.9	10.7	9.8	9.1	9.3
23–24							24.6	25.1	22.8	20.8	21.1	21.6	18.4	18.6	17.4	17.4	15.5	15.2	15.0	15.3	16.1	16.4	14.5	14.8	14.1	15.8	15.9	15.4	15.2	13.9	12.8	10.6	11.5	8.6	9.6
25–26									24.1	24.8	22.0	19.9	18.6	20.6	19.6	18.2	15.8	17.4	15.0	14.2	15.0	13.2	15.5	15.0	14.8	15.1	14.1	14.0	15.6	13.6	14.0	14.3	10.9	10.3	11.3
27–28											23.2	23.3	20.6	19.0	18.2	19.0	17.9	16.3	15.9	16.3	14.8	12.8	14.8	12.4	14.7	12.6	13.9	14.8	12.8	13.1	13.6	13.0	12.0	11.8	10.1
29–30													22.3	22.0	20.5	16.7	17.0	17.9	16.8	16.5	15.2	15.9	12.2	13.2	12.5	11.4	14.0	12.7	12.5	14.1	13.5	12.6	12.3	10.5	10.7
31–32[a]															20.8	20.8	19.3	17.8	17.8	17.6	16.1	16.1	14.3	14.8	12.8	11.9	—	—	—	—	—	—	—	—	—
35																			19.1	19.1	18.5	15.4	16.3	17.3	15.7	13.4	13.0	12.4	10.9	11.3	10.7	10.5	12.4	11.1	10.8
40																							18.7	17.2	17.2	15.9	13.6	14.9	14.2	16.0	12.2	12.1	11.6	8.5	9.1
45																												16.8	15.4	16.4	14.2	12.3	12.2	13.0	13.3
50																																	13.9	12.2	14.4

Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2002, respondents were followed through age 30 (instead of 32, as in past years).

Chapter 6

ATTITUDES AND BELIEFS ABOUT DRUGS AMONG YOUNG ADULTS

One of the most important theoretical and practical contributions of MTF has been to demonstrate the extent to which attitudes and beliefs about drugs determine use. Earlier volumes in this monograph series, as well as other publications from the study, have demonstrated that shifts in certain attitudes and beliefs—in particular the degree of risk of harm perceived to be associated with use of a particular drug—are important in explaining changes in actual drug-using behavior. Indeed, on a number of occasions we have accurately predicted such changes.[55] In this chapter, we review trends since 1980 in the attitudes and beliefs held by young adults.

PERCEIVED HARMFULNESS OF DRUGS

Table 6-1 provides trends in the percentages of young adults aged 18 to 30 who perceive a "great risk" of harm associated with differing usage levels of various licit and illicit drugs. These questions are contained in one questionnaire form only, limiting the numbers of follow-up cases; accordingly, we use four-year age bands in order to increase the available sample size (to about 300–600 weighted cases per year for each age band) and, thus, to improve the reliability of the estimates. (The number of weighted cases is given at the end of Table 6-1. The actual number of respondents is somewhat larger.) Still, these are relatively small sample sizes compared to those available for 8th, 10th, and 12th graders, and thus the change estimates may be relatively less stable. Because of the nature of the MTF design, trend data are available for a longer period for 19- to 22-year-olds (since 1980) than for 23- to 26-year-olds (since 1984) or 27- to 30-year-olds (since 1988). Also displayed in this table are comparison data for 12th graders, shown here as 18-year-olds, from 1980 onward. (See also Table 8-3 in *Volume I* for the longer term trends in 12th graders' levels of perceived risk.) Questions about these attitudes and beliefs are not included in the questionnaires for respondents over age 30.

[55]Bachman, J. G., Johnston, L. D., O'Malley, P. M., & Humphrey, R. H. (1988). Explaining the recent decline in marijuana use: Differentiating the effects of perceived risks, disapproval, and general lifestyle factors. *Journal of Health and Social Behavior, 29*, 92–112; Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1990). Explaining the recent decline in cocaine use among young adults: Further evidence that perceived risks and disapproval lead to reduced drug use. *Journal of Health and Social Behavior, 31*, 173–184; Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1998). Explaining recent increases in students' marijuana use: Impacts of perceived risks and disapproval, 1976 through 1996. *American Journal of Public Health, 88*, 887–892; Johnston, L. D. (1981). Characteristics of the daily marijuana user. In R. de Silva, R. L. DuPont, & G. K. Russell (Eds.), *Treating the marijuana-dependent person* (pp. 12–15). New York: The American Council on Marijuana; Johnston, L. D. (1985). The etiology and prevention of substance use: What can we learn from recent historical changes? In C. L. Jones & R. J. Battjes (Eds.), *Etiology of drug abuse: Implications for prevention* (NIDA Research Monograph No. 56, DHHS Publication No. ADM 85-1335, pp. 155–177). Rockville, MD: National Institute on Drug Abuse. Keyes, K.M., Schulenberg, J.E., O'Malley, P.M., Johnston, L.D., Bachman, J.G., Li, G., & Hasin, D. (in press). The social norms of birth cohorts and adolescent marijuana use in the United States, 1976-2007. *Addiction*.

- Table 6-1 illustrates considerable differences in the degree of risk young adults associate with various drugs. In general, the results closely parallel the distinctions made by 12th graders.

- ***Marijuana*** is seen as the least risky of the illicit drugs, although sharp distinctions are made between different levels of marijuana use. In 2010, experimental use of marijuana is perceived as being of great risk by 12–17% of all high school graduates ages 19–30, whereas regular use is perceived to carry great risk by almost half (47–50%).

  In the mid-1980s and early 1990s, fewer of the older age groups attached great risk to marijuana use than did the younger respondents. Indeed, there was a regular negative ordinal relationship between age and perceived risk for some years after 1980, when the first comparisons were available. Although this may have first looked like an age effect, the MTF design allows us to recognize it as a cohort effect; the younger cohorts initially perceived marijuana as more dangerous than the older cohorts and persisted in such beliefs as they grew older. Newer cohorts, however, have shown lower levels of perceived risk. Twelfth graders from the class of 2010 are much less likely to perceive regular marijuana use as dangerous than 12th-grade cohorts in the late 1980s and early 1990s. This reflects what we have interpreted as generational forgetting, a phenomenon wherein younger replacement cohorts no longer carry the beliefs—or had the direct or vicarious experience on which those beliefs were based—that the older cohorts had at that age. (The implications of this concept for prevention are discussed in the last section of this chapter.)

  The decline in perceived risk that began in the 1990s was greater in the younger age bands, including grades 8 and 10, and least among the 27- to 30-year-olds. We believe that much of the eventual decline in perceived risk in the older age bands resulted directly from generational replacement of earlier cohorts by later, less concerned ones. The credibility of this view is strengthened by the 1993–1995 reversal of the relationship between age and perceived risk of regular use. This reversal is consistent with an underlying cohort effect and could not simply reflect an association between age and a regular change in these attitudes. The decline in perceived risk for regular marijuana use ended in a somewhat staggered fashion—among 12th graders in 1999, among 19- to 22-year-olds in 2001, among 23- to 26-year-olds in 2002, and among 27- to 30-year-olds in 2004. In 2007 all four age strata showed declines of three to four percentage points in perceived risk for regular marijuana use, though none of the declines were statistically significant. The three oldest age groups showed some non-significant increase in perceived risk in 2010, but the youngest one did not; rather, they declined by a significant 5.6 percentage points, perhaps exhibiting the start of a new cohort effect.

- Young adults ages 19-30 view experimental use of any of the other illicit drugs as distinctly more risky than the experimental use of marijuana. About 27–36% of young adults think trying ***sedatives*** (***barbiturates***) involves great risk; the corresponding figures are 39–42% for ***amphetamines***, 41–49% for ***LSD***, 48–52% for ***ecstasy*** (***MDMA***), 44–52% for ***cocaine powder***, 54–62% for ***crack***, and 64–76% for ***heroin***. (Note that the two

classes of prescription drugs asked about have the lowest levels of perceived risk among this set. Perceived risk of tranquilizers is not asked.)

- In the past, the older age groups were more likely to see ***LSD*** as dangerous. The age distinctions for LSD use became sharper through about 2001 as perceived risk declined more in the younger age groups—again indicating some important cohort changes in these attitudes, quite likely as a result of generational forgetting of the dangers of LSD. In recent years, there has been a decline in perceived risk in the older age groups, again likely resulting from generational replacement as newer cohorts move up the age spectrum, which began to diminish the age differences. There was some divergence in 2010 in the rates of perceived risk of regular use of LSD, including an increase among 27- to 30-year-olds that was statistically significant.

- Recent years have shown little systematic change in perceived risk for ***cocaine*** among young adults. A decline in perceived risk began among 19- to 22-year-olds after 1994, among 23- to 26-year-olds after 1997, and among 27- to 30-year-olds after 2001. Young adults have generally reported somewhat higher perceived risk with respect to cocaine use than have 12th graders, who have had less experience with this drug.

  Among 12th graders and the young adult age groups, the danger associated with using cocaine on a regular basis grew considerably (by 13 and 17 percentage points, respectively) between 1980 and 1986. Interestingly, these changed beliefs did not translate into changed behavior until the perceived risk associated with *experimental* and *occasional* use began to rise sharply after 1986. When these two measures rose, a sharp decline in actual use occurred. We hypothesized that respondents saw only these lower levels of use as relevant to them and, therefore, saw themselves as vulnerable only to the dangers of such use. (No one starts out planning to be a heavy user; further, in the early 1980s, cocaine was not believed to be addictive.) Based on this hypothesis, we included the additional question about occasional use in 1986, just in time to capture a sharp increase in perceived risk later that year. This increase occurred largely in response to the growing media frenzy about cocaine—and crack cocaine, in particular—and to the widely publicized, cocaine-related deaths of several public figures (most notably Len Bias, a collegiate basketball star and high National Basketball Association draft pick). After stabilizing for a few years, perceived risk began to fall off after about 1991 among 12th graders, but not among the older age groups—again suggesting that lasting cohort differences were emerging, quite possibly as a result of generational forgetting of the dangers of cocaine in the younger age groups.

- A similar situation now exists for ***crack***, for which perceived risk is highest in the oldest age band and lowest among 12th graders. For some years now, high school seniors have been considerably less likely than any of the older age groups to view occasional and regular use of crack cocaine as dangerous, strongly suggesting that an age-effect may be operating here. Trend data (available since 1987) on the risks perceived to be associated with crack use showed increases in 1987–1990 for all age groups, followed by relatively little change in the older age strata. During the 1990s, twelfth graders showed decreases in the perceived risk of experimental use of crack—perhaps reflecting the onset of

generational forgetting of its dangers—leaving them as perceiving considerably less risk than the older groups. The young adult age groups have shown a staggered decline in this measure, with 19- to 22-year-olds showing a decline after 1994, 23- to 26-year-olds since 1996 and 27- to 30-year-olds after 2001. As a result, the different ages spread out more in their levels of perceived risk of crack use, until declines in the older age groups after about 2002.

- Measures of perceived risk of ***crystal methamphetamine*** (***ice***) use were introduced in 1990, and the results show what may be an important reason for its lack of rapid spread. More than half of all 12th graders and young adults perceived it as quite dangerous even to try, perhaps because it was likened to crack in many media accounts. (Both drugs come in crystal form, both are burned and the fumes inhaled, both are stimulants, and both can produce a strong dependence.) There was rather little age-related difference in perceived risk associated with use of crystal methamphetamine in 1990 and 1991 (although the two youngest age groups were somewhat higher). But as perceived risk fell considerably among 12th graders (and eventually among 19- to 22-year-olds) and held steady or rose in the oldest two age groups, an age-related difference emerged. Since about 2004, perceived risk has risen some among all of the age strata, narrowing the age-related differences that had emerged for a few years. In 2010 perceived risk for trying this drug stood at 65% among 12th graders and at 70–71% in all of the older strata.

- Questions about perceived risk of ecstasy (***MDMA***) were introduced in the follow-up surveys in 1989, but were not asked of 12th graders until 1997. At the beginning of the 1990s, all young adult age groups viewed ecstasy as a fairly dangerous drug, even for experimentation. But, again, the different age bands had diverging trends during the 1990s, with the oldest two age bands continuing to see ecstasy as quite dangerous, but the 19- to 22-year-olds (and very likely the 12th graders, for whom we did not have data until 1997) coming to see it as less so. In 2000, 38% of 12th graders saw great risk in trying ecstasy versus 49% of 27- to 30-year-olds; in 2001, the corresponding figures were 46% and 54%. In fact, three of the four age groups showed appreciable increases in perceived risk for ecstasy in 2001, which led us to predict a decline in use. The increase in perceived risk continued in 2002 in the two youngest age strata, and their use of ecstasy did, indeed, begin to decline—and decline sharply (see chapter 5). Perceived risk continued to rise from 2004 through 2008 for all age groups, and then pretty much leveled.

- Young adults have been more cautious about ***heroin*** use than 12th graders. In general, there has been relatively little change over the years in the proportions of all age groups seeing *regular* heroin use as dangerous; the great majority of each group (over 85%) consistently held this viewpoint. With regard to heroin experimentation, from 1975 to 1986 there had been a downward shift among 12th graders in the proportion seeing great risk associated with trying heroin. Following this decline (although their data do not extend back as far), young adults showed a gradually increasing caution about heroin use in the latter half of the 1980s—possibly due to the association of heroin injection with the spread of HIV—followed by a leveling through most of the 1990s. In 1996 and 1997, young adults' perceived risk increased some, as happened among 12th graders (as well as

among 8th and 10th graders). These various trends may reflect, respectively, (a) the lesser attention paid to heroin by the media during the late 1970s and early 1980s as cocaine took center stage; (b) the subsequent great increase in attention paid to intravenous heroin use in the latter half of the 1980s due to the recognition of its important role in the spread of HIV/AIDS; (c) the emergence in the 1990s of heroin so pure that people no longer needed to use a needle to administer it, resulting in lower perceived risk; and (d) the subsequent increased attention given to heroin by the media (partly as a result of some overdose deaths by public figures and partly prompted by the emergence of "heroin chic" in the design industry), as well as through an anti-heroin media campaign launched by the Partnership for a Drug-Free America in June 1996. At present, considerably more young adults see heroin use as dangerous than do 12th graders (Table 6-1); the differences have generally been largest for experimental and occasional use.

- Only a minority of young adults see ***occasions of heavy drinking*** on weekends as dangerous (36–41%), as do 12th graders (46%). The belief that heavy drinking carries great risk has increased over the years in these age groups, rising among 12th graders from 36% in 1980 to 49% in 1992. Among 19- to 22-year-olds, it rose from a low of 30% in 1981 to 42% in 1992; the increases among the older groups were smaller. The increase in this belief may well help to explain the important decline in actual heavy drinking, and may in turn be explained by the media campaigns against drunk driving and the increase in the drinking age in a number of states.[56] Following a staggered pattern, perceived risk peaked among 18-year-olds in 1992, among 19- to 22-year-olds in 1993, among 23- to 26-year-olds in 1994, and among 27- to 30-year-olds in 1995, suggesting some cohort effects. Since 1995, perceived risk of heavy drinking has declined slightly in the 23–30 age groups.

- Between 1980 and 1991, a gradually increasing proportion of all four age groups viewed drinking ***one or two drinks per day*** as dangerous; but then they all showed a parallel decrease in perceived risk for this behavior through at least 2000. It seems likely that the earlier increase was due to the general rising concern about the consequences of alcohol use, particularly drunk driving, and that the subsequent decline was due to increasing reports of cardiovascular health benefits of light-to-moderate daily alcohol consumption. In recent years there has been little systematic change in this belief in any of the age strata, and there has been little difference by age across the entire 30-year interval.

- More than four fifths (80–89%) of young adults now perceive regular ***pack-a-day cigarette smoking*** as entailing high risk. In recent years, 18-year-olds have consistently shown lower perceived risk than young adults, while 10th graders have been still lower and 8th graders lowest. Clearly, there is an age effect in young people coming to understand the dangers of smoking. Unfortunately, it appears that much of the learning about the risks of smoking happens after a great deal of smoking initiation has occurred and many young people have already become addicted. These beliefs about smoking

[56]See O'Malley, P. M., & Johnston, L. D. (1999). Drinking and driving among U.S. high school seniors: 1984–1997. *American Journal of Public Health, 89*, 678–684. See also O'Malley, P. M., & Johnston, L. D. (2003). Unsafe driving by high school seniors: National trends from 1976 to 2001 in tickets and accidents after use of alcohol, marijuana and other illegal drugs. *Journal of Studies on Alcohol, 64*, 305–312.

risks have strengthened very gradually in all age groups from senior year forward during the years we have monitored them (see Table 6-1). The parallel changes in these beliefs across the different age groups indicate a period effect, suggesting that all of these age groups were responding to common influences in the larger culture. These influences are discussed at some length in the chapter on attitudes and beliefs in *Volume I*. The rise in perceived risk has stalled some in recent years, with little change between 2002 and 2010, except among 27- to 30-year-olds who have shown some continuing increase in perceived risk of pack-a-day smoking.

The regular use of ***smokeless tobacco*** is seen as dangerous by 46–59% of young adults and 41% of 12th graders. These beliefs gradually strengthened until about 2001 in all age groups covered (Table 6-1), particularly among the two older age groups. As with cigarettes, the change appears to reflect a secular trend (period effect), because it has been occurring in parallel for all age groups. Perceived risk has been fairly level since then.

PERSONAL DISAPPROVAL OF DRUG USE

The questions asked of 12th graders concerning the extent to which they personally disapprove of various drug-using behaviors among "people (who are 18 or older)" are also asked of follow-up respondents in one of the six questionnaire forms. Trends in the answers of young adults in the age bands of 19 to 22, 23 to 26, and 27 to 30 are contained in Table 6-2. Comparison data for 12th graders are also provided for 1980 onward. (See Table 8-6 in *Volume I* for the longer term trends in 12th graders' levels of disapproval associated with using the various drugs.)

- In general, disapproval levels of adult use of the various drugs rank similarly across substances for both 12th graders and young adults. The great majority of young adults disapprove of using, or even experimenting with, all of the ***illicit drugs other than marijuana***. For example, 95% or more of young adults in 2010 disapprove of regular use of each of the following drugs: ***LSD***, ***cocaine***, ***heroin***, ***amphetamines***, and ***sedatives*** (***barbiturates***). Fully 80% to 96% of young adults disapprove of experimentation with each of these same drugs. Many of these attitudes differ rather little as a function of age at present; when there is a difference, the younger age groups are usually the least disapproving.

- Even for ***marijuana***, almost half of young adults now disapprove of experimentation (43–51%), a substantial majority (59–63%) disapproves of occasional use, and the great majority (78–82%) disapproves of regular use.

  Marijuana use shows the widest fluctuations in disapproval over time—generally, fluctuations that parallel the changes in perceived risk (though sometimes with a one-year lag, with the change in perceived risk coming first). The most fluctuation has occurred among the younger age groups (Table 6-2). Among 12th graders, disapproval of regular marijuana use increased substantially in the 1980s, peaked in the early 1990s, declined through much of the 1990s, and then leveled around 1998 with little change for some

years. The 19- to 22-year-olds had a quite similar pattern, though the decline continued a year longer, likely due to generational replacement. Among 23- to 26-year-olds, there were some declines starting later in the 1990s, but the declines have been very modest. Since 2007 there has been some decline in disapproval of occasional and regular marijuana use in all four age groups, suggesting a possible increase in marijuana use in future years.

- In all four groups from high school seniors to age 30, the great majority has disapproved of even experimenting with ***LSD*** since 1980, when these data were first available. Beginning around 1990, all age groups decreased some in their disapproval of trying LSD (starting from high levels of disapproval, all at 90–91%). The decline was steepest among 12th graders, but there was a reversal in their disapproval in 1997, and then an increase through 2006. Disapproval in the older age groups declined less and in staggered fashion; this trend has shown some evidence of a reversal among 19- to 22-year-olds and 23- to 26-year-olds since 2001 and 2002, respectively. This pattern again suggests lasting cohort differences in these attitudes. Disapproval levels have fluctuated in recent years, but are generally higher in 2010 than they were in 2002. Disapproval of regular LSD use has been near the top of the scale for the entire 30-year period, ranging from 92% to 99%.

- Since 2001, when it was first measured among young adults, disapproval of ***ecstasy*** use has risen in all age groups, and now all groups have very high levels. Experimenting with ecstasy is disapproved of by 86% of 12th graders in 2010, declining only slightly with age to 82% among 27- to 30-year-olds. This decline with age may reflect cohort differences in past experience with ecstasy. At the beginning of the decade the age differences were in the opposite direction.

- Disapproval of all three levels of ***heroin*** use has remained very high and stable since MTF began. There was one minor exception, however: a little slippage in disapproval of experimental use occurred among 12th graders from 1991 through 1996 (from 96% to 92%)—a period during which heroin usage rates began to rise.

- Disapproval of regular ***cocaine*** use rose gradually among 19- to 22-year-olds, from 89% in 1981 to 99% in 1990, with little change thereafter (it was 98% in 2010). All three young adult age bands are now near 100%. Disapproval of experimental cocaine use increased during the 1980s, peaking first among 12th graders at 94% in 1991. It then peaked in 1995 among 19- to 22-year-olds (at 94%) and 23- to 26-year-olds (at 92%). Finally, it peaked in 1999 at 90% among 27- to 30-year-olds. All age groups have had some modest falloff in disapproval since those peak levels were attained. Again, the lag in inflection points between the successive age groups suggests some lasting cohort differences in these attitudes. For the last few years, all age groups' disapproval of experimental cocaine use has hovered around 85–90%.

- Disapproval of experimental use has moved very much in parallel for ***amphetamines*** and ***sedatives*** (***barbiturates***). Disapproval of both drugs increased significantly during the 1980s, accompanied by declining use. Trying *amphetamines* once or twice was disapproved of by 73–74% of 19- to 26-year-olds in 1984, compared to 84% by 1990.

The corresponding figures for disapproval of trying *sedatives* were 84–85% in 1984 compared to 89–91% by 1990. Disapproval of amphetamine and sedative use slipped some among 12th graders after 1992 and among 19- to 22-year-olds after 1994, with the 23- to 26-year-olds following suit after 1996, and the 27- to 30-year-old stratum in 2004. This pattern of staggered change again suggests cohort effects, reflecting lasting cohort differences in these attitudes. In recent years a staggered increase in disapproval of both amphetamines and sedatives has shown up in all age groups.

- The story for ***alcohol*** is quite an interesting one, in that changes in the minimum drinking age seem to have led to modest changes in norms for the affected cohorts. Between 1980 and 1992, an increasing proportion of 12th graders favored total abstention; the percent who disapproved of drinking even just ***once or twice*** rose from 16% in 1980 to 33% in 1992. (This figure has fallen back slightly, and stands at 31% in 2010.) Among 19- to 22-year-olds there was a modest increase in disapproving of any use between 1985 and 1989 (from 15% to 22%), where it held for some years; it now stands at 24% in 2010. For the two oldest age groups, there has been rather little change in these attitudes so far. These differing trends may reflect the fact that during the 1980s, the drinking age was raised in a number of states so that by 1987 it was 21 in all states; this change would have had the greatest effect on 12th graders, who may have incorporated the legal restrictions into their normative structure and, as they entered young adulthood, brought these new norms with them. But the changes may be exhibited only among respondents in the cohorts that were underage after the time that the new law raising the minimum drinking age went into effect.

  Disapproval of ***daily drinking*** (one or two drinks) has not shown any such cohort effects, because all age groups have generally moved in parallel, at similar levels of disapproval. The three youngest age bands (which include 12th graders through 26-year-olds) showed an increase in disapproval of daily drinking up until about 1990 (there was little data yet available on the oldest age group), but disapproval has declined a fair amount in all of the age groups since then. A bit of a gap between 12th graders and young adults opened up between 2004 and 2008, when 12th graders increased their disapproval of daily drinking while young adults did not. This pattern of cross-time change closely parallels what was observed for the perceived risk associated with light daily drinking, discussed previously; the later decline in both variables may well be due to widely publicized reports that some cardiovascular benefits may result from having one or two drinks per day.

  There was a considerable increase in disapproval of ***occasions of heavy drinking*** on weekends from the early 1980s for the two youngest age groups, and this continued through 1992 for 12th graders (who then showed some drop-off) and through 1996 among 19- to 22-year-olds (who also then showed some drop-off). As Figure 5-18d illustrates, the prevalence of occasions of heavy drinking declined substantially among 12th graders and 19- to 22-year-olds between 1981 and the early 1990s, as norms became more restrictive. There was little or no change in the older age strata, either in their levels of disapproval or in their rates of occasions of heavy drinking, until the early 2000s, when disapproval began to drop some in both strata.

At present, among 12th graders and young adults, 12th graders are most likely to disapprove of trying alcoholic beverages (as has been the case for some years), but are the least disapproving of heavy daily drinking or of occasions of heavy drinking on weekends, though the differences across age groups are not large for the latter two measures.

- Some fluctuations in the disapproval of ***cigarette smoking*** have occurred over the intervals covered by MTF. Twelfth graders showed some increase in disapproval of pack-or-more-a-day smoking between 1982 (69%) and 1992 (74%). Their disapproval then fell through 1997 (to 67%) as their smoking increased; disapproval then increased for several years (to 82% in 2006) before leveling, as smoking declined. The 19- to 22-year-olds showed a similar increase in disapproval from 66% in 1982 to 83% in 2010. All four age strata showed some upward drift in their level of disapproval of smoking since about 1999 (78–83% in 2010), suggesting a secular change in attitudes during this historical period.

COHORT DIFFERENCES AND THEIR IMPLICATIONS FOR PREVENTION AND THEORY

An important theoretical point to be made—based on the strong evidence reported here for cohort effects in perceived risk and disapproval of many of the drugs under study—is that one cause for cohort effects in actual use is lasting cohort differences in these critical attitudes and beliefs. *The attitudes and beliefs brought into adulthood from adolescence tend to persevere.*

A second point has to do with the causes of these attitudinal cohort effects. We noted earlier that the older respondents are more likely than the younger ones to see the use of ***marijuana***, ***LSD***, ***heroin***, ***amphetamines***, ***ecstasy***, ***crystal methamphetamine***, ***cocaine***, ***crack***, and ***sedatives*** (***barbiturates***) as dangerous. We have offered the framework for a theory of drug epidemics in which direct learning (from personal use) and vicarious learning (from observing use by others in both the immediate and mass media environments) play important roles in changing these key attitudes.[57] To the extent that the data on perceived risk represent cohort effects (enduring differences between class cohorts), these findings would be consistent with this theoretical perspective. Clearly, use of these particular drugs was greater when the older cohorts were growing up, and public attention and concern regarding the consequences of these drugs were greatest in the 1970s and early to mid-1980s. In the early 1970s, LSD was alleged to cause brain and chromosomal damage, as well as bad trips, flashbacks, and behavior that could prove dangerous. Methamphetamine use was discouraged with the slogan "speed kills." In addition, there was a serious epidemic of heroin use in the early 1970s. More recent cohorts (through the mid-1990s, at least) were not exposed to those experiences. While there may have been a secular trend toward greater perceived risk for drugs in general, in the case of LSD there may have also been an operating cohort effect (with younger cohorts seeing less danger) offsetting the secular

[57]Johnston, L. D. (1991). Toward a theory of drug epidemics. In L. Donohew, H. E. Sypher, & W. J. Bukoski (Eds.), *Persuasive communication and drug abuse prevention (*pp. 93–131). Hillsdale, NJ: Lawrence Erlbaum. Available at http://www.monitoringthefuture.org/pubs.html#chapts.

trend among 12th graders; the net effect was a decrease in 12th graders' perceived risk of LSD use after 1980.

This vicarious learning process has a very practical application for national strategy for preventing future epidemics. Because fewer in their immediate social circles and fewer public role models may be using these drugs and exhibiting the adverse consequences of use, future cohorts of youth may have less opportunity to learn about the adverse consequences of these drugs in the normal course of growing up. Unless those hazards are convincingly communicated to them in *other ways*—for example, through school prevention programs, by their parents, and through the mass media, including public service advertising—they will become more susceptible to a new epidemic of use of the same or similar drugs.

In *Volume I*, the companion to this volume, we reported an increase in use of several drugs in 8th, 10th, and 12th grades in 1994 through 1997. This increase suggests that this form of generational forgetting may well have been taking place during those years. For the cohorts that follow such a rise in use, there is once again an increased opportunity for vicarious learning from the adverse experiences of those around them, but by that time, members of affected cohorts have had to learn the hard way what consequences await those who become involved with the various drugs. In the 2000s we have seen drug use subside to some degree, which once again has created the conditions for generational forgetting of the dangers of many of these drugs, as we have been saying in earlier volumes in this monograph series. We are now seeing some softening of attitudes among teens regarding marijuana and ecstasy, and the recent lower levels of perceived risk of LSD use suggest a real possibility of a future increase in use.

TABLE 6-1
Trends in Harmfulness as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	Percentage saying "great risk"[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Try marijuana once or twice	18	10.0	13.0	11.5	12.7	14.7	14.8	15.1	18.4	19.0	23.6	23.1	27.1	24.5	21.9	19.5
	19–22	8.3	7.8	9.7	9.7	12.8	11.2	13.0	12.9	16.8	16.9	17.8	19.1	19.7	19.4	18.8
	23–26	—	—	—	—	9.6	10.0	12.4	14.5	16.0	14.0	17.7	14.0	15.0	13.0	15.0
	27–30	—	—	—	—	—	—	—	—	14.6	16.0	17.0	15.7	15.1	14.0	14.8
Smoke marijuana occasionally	18	14.7	19.1	18.3	20.6	22.6	24.5	25.0	30.4	31.7	36.5	36.9	40.6	39.6	35.6	30.1
	19–22	13.9	14.2	16.9	16.7	21.7	20.6	22.4	23.0	28.7	29.1	30.1	30.2	29.5	30.3	31.3
	23–26	—	—	—	—	15.8	16.3	20.9	20.8	26.8	25.3	30.4	26.2	27.4	24.0	25.5
	27–30	—	—	—	—	—	—	—	—	24.2	25.7	28.7	27.4	27.5	26.8	28.1
Smoke marijuana regularly	18	50.4	57.6	60.4	62.8	66.9	70.4	71.3	73.5	77.0	77.5	77.8	78.6	76.5	72.5	65.0
	19–22	43.9	47.8	52.4	58.4	62.2	66.8	67.6	69.4	72.4	74.9	73.0	75.0	69.3	69.2	65.0
	23–26	—	—	—	—	52.9	57.5	59.4	65.3	68.3	72.1	71.0	70.9	67.3	64.1	63.2
	27–30	—	—	—	—	—	—	—	—	67.5	69.1	69.2	67.5	68.8	69.4	65.6
Try LSD once or twice	18	43.9	45.5	44.9	44.7	45.4	43.5	42.0	44.9	45.7	46.0	44.7	46.6	42.3	39.5	38.8
	19–22	44.8	44.4	45.0	44.7	46.0	44.3	47.6	49.4	49.2	49.5	49.3	48.0	45.6	42.4	42.3
	23–26	—	—	—	—	48.3	46.9	47.9	51.5	53.7	50.7	52.0	50.1	49.7	49.0	46.8
	27–30	—	—	—	—	—	—	—	—	53.3	55.6	54.6	52.5	53.0	51.5	53.5
Take LSD regularly	18	83.0	83.5	83.5	83.2	83.8	82.9	82.6	83.8	84.2	84.3	84.5	84.3	81.8	79.4	79.1
	19–22	83.4	85.3	86.2	86.0	84.5	86.4	87.1	85.6	85.4	85.5	85.8	86.6	87.0	81.3	81.0
	23–26	—	—	—	—	89.0	86.6	88.7	90.0	89.2	89.0	88.2	89.1	87.3	85.3	87.5
	27–30	—	—	—	—	—	—	—	—	89.1	91.2	92.0	87.1	88.5	89.0	89.2
Try PCP once or twice	18	—	—	—	—	—	—	—	55.6	58.8	56.6	55.2	51.7	54.8	50.8	51.5
	19–22	—	—	—	—	—	—	—	63.6	63.8	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	64.8	63.2	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	65.9	—	—	—	—	—	—
Try ecstasy (MDMA) once or twice	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	45.2	47.1	48.8	46.4	45.0	51.1
	23–26	—	—	—	—	—	—	—	—	—	49.5	47.2	47.4	45.5	41.9	50.6
	27–30	—	—	—	—	—	—	—	—	—	44.9	48.7	47.7	44.2	51.7	47.3
Take ecstasy (MDMA) occasionally	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try cocaine once or twice	18	31.3	32.1	32.8	33.0	35.7	34.0	33.5	47.9	51.2	54.9	59.4	59.4	56.8	57.6	57.2
	19–22	31.4	30.4	33.3	28.7	33.1	33.2	35.5	45.9	51.9	51.5	58.1	58.7	56.1	60.5	63.8
	23–26	—	—	—	—	31.3	31.1	35.9	48.0	47.1	51.3	51.5	50.5	53.5	54.1	56.0
	27–30	—	—	—	—	—	—	—	—	45.3	53.0	51.6	52.6	51.8	54.7	53.5
Take cocaine occasionally	18	—	—	—	—	—	—	54.2	66.8	69.2	71.8	73.9	75.5	75.1	73.3	73.7
	19–22	—	—	—	—	—	—	53.8	61.3	67.1	72.6	74.6	72.6	74.9	75.4	78.0
	23–26	—	—	—	—	—	—	50.9	62.6	63.2	69.9	69.9	70.3	69.9	72.8	70.3
	27–30	—	—	—	—	—	—	—	—	62.6	66.6	66.6	69.1	69.9	69.1	69.9
Take cocaine regularly	18	69.2	71.2	73.0	74.3	78.8	79.0	82.2	88.5	89.2	90.2	91.1	90.4	90.2	90.1	89.3
	19–22	65.2	69.3	71.5	75.2	75.1	82.9	82.0	88.0	90.3	89.1	93.9	93.5	92.9	91.7	92.2
	23–26	—	—	—	—	75.6	76.9	83.0	88.9	90.9	91.2	91.2	92.7	89.9	91.9	92.6
	27–30	—	—	—	—	—	—	—	—	88.9	92.0	91.4	90.9	92.0	91.6	92.1
Try crack once or twice	18	—	—	—	—	—	—	—	57.0	62.1	62.9	64.3	60.6	62.4	57.6	58.4
	19–22	—	—	—	—	—	—	—	59.4	67.3	68.5	69.4	66.9	65.4	63.5	70.1
	23–26	—	—	—	—	—	—	—	59.1	63.5	69.8	67.3	66.9	67.1	64.2	69.3
	27–30	—	—	—	—	—	—	—	—	66.5	64.9	68.7	66.8	64.3	68.8	65.6
Take crack occasionally	18	—	—	—	—	—	—	—	70.4	73.2	75.3	80.4	76.5	76.3	73.9	73.8
	19–22	—	—	—	—	—	—	—	75.0	77.3	81.8	82.3	82.7	81.9	83.6	84.3
	23–26	—	—	—	—	—	—	—	70.3	74.0	79.9	81.1	83.9	84.4	81.6	83.2
	27–30	—	—	—	—	—	—	—	—	76.4	76.7	82.6	81.8	79.1	83.6	78.6

Years cont.

(Table continued on next page.)

TABLE 6-1 (cont.)
Trends in Harmfulness as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Percentage saying "great risk"[a]

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Try marijuana once or twice	18	16.3	15.6	14.9	16.7	15.7	13.7	15.3	16.1	16.1	15.9	16.1	17.8	18.6	17.4	18.5	17.1	-1.4
	19–22	13.3	16.9	14.8	13.4	12.5	14.3	11.9	13.3	17.1	15.3	15.6	14.4	10.8	17.4	13.2	16.8	+3.5
	23–26	15.8	18.5	15.1	16.7	16.4	13.1	13.0	15.1	15.3	13.6	13.0	13.9	13.0	12.5	10.6	12.7	+2.2
	27–30	16.1	16.2	16.1	16.4	16.1	14.4	17.3	16.2	18.0	13.8	14.5	14.5	16.6	11.4	12.3	11.5	-0.8
Smoke marijuana occasionally	18	25.6	25.9	24.7	24.4	23.9	23.4	23.5	23.2	26.6	25.4	25.8	25.9	27.1	25.8	27.4	24.5	-2.9
	19–22	25.5	25.6	22.0	22.0	19.8	25.8	18.0	21.0	24.1	23.2	24.3	22.1	22.3	23.6	23.1	19.9	-3.3
	23–26	27.7	27.3	26.4	26.8	26.4	24.9	20.5	24.5	22.2	22.7	21.6	22.3	20.2	18.5	18.1	19.3	+1.3
	27–30	28.3	28.1	26.0	25.8	25.3	25.8	25.0	30.2	27.9	25.1	24.8	21.8	25.6	21.6	21.7	18.6	-3.1
Smoke marijuana regularly	18	60.8	59.9	58.1	58.5	57.4	58.3	57.4	53.0	54.9	54.6	58.0	57.9	54.8	51.7	52.4	46.8	-5.6 ss
	19–22	62.1	61.3	60.7	53.4	55.2	58.0	49.6	56.7	57.8	57.2	55.3	54.5	50.4	51.6	46.4	49.8	+3.3
	23–26	64.2	62.7	64.1	62.7	60.1	60.3	55.1	53.7	56.7	54.2	53.6	55.9	52.5	52.4	43.0	47.1	+4.1
	27–30	69.2	67.3	65.0	63.6	66.1	64.0	61.7	63.5	64.7	59.3	57.0	54.9	51.5	51.2	47.4	48.5	+1.1
Try LSD once or twice	18	36.4	36.2	34.7	37.4	34.9	34.3	33.2	36.7	36.2	36.2	36.5	36.1	37.0	33.9	37.1	35.6	-1.5
	19–22	40.3	44.4	40.1	38.7	38.1	37.9	37.5	35.3	39.7	39.2	38.7	43.5	40.9	46.5	38.5	40.9	+2.4
	23–26	45.8	46.1	46.6	45.7	49.3	44.9	48.5	45.7	43.8	40.7	39.9	38.1	42.8	43.8	43.0	48.7	+5.7
	27–30	52.5	50.1	52.0	52.0	49.9	46.4	46.7	44.9	47.5	47.2	47.9	44.9	44.6	42.4	41.7	41.5	-0.2
Take LSD regularly	18	78.1	77.8	76.6	76.5	76.1	75.9	74.1	73.9	72.3	70.2	69.9	69.3	67.3	63.6	67.8	65.3	-2.5
	19–22	80.5	82.4	83.6	78.6	82.2	81.6	79.2	81.1	78.6	78.4	77.8	78.9	77.5	73.9	74.8	72.8	-2.1
	23–26	86.3	84.7	85.6	82.1	85.4	84.1	86.0	85.3	84.3	83.5	80.8	82.0	80.3	80.2	82.0	83.1	+1.1
	27–30	88.4	87.0	87.2	90.5	87.8	85.3	86.9	85.3	87.5	83.9	87.9	82.2	85.7	82.9	80.2	87.0	+6.7 s
Try PCP once or twice	18	49.1	51.0	48.8	46.8	44.8	45.0	46.2	48.3	45.2	47.1	46.6	47.0	48.0	47.4	49.7	52.4	+2.7
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try ecstasy (MDMA) once or twice	18	—	—	33.8	34.5	35.0	37.9	45.7	52.2	56.3	57.7	60.1	59.3	58.1	57.0	53.3	50.6	-2.7
	19–22	48.3	46.7	45.5	42.7	37.6	37.9	40.5	46.8	50.1	52.3	53.8	51.0	50.3	51.4	51.4	50.7	-0.7
	23–26	49.3	50.4	50.5	47.7	50.0	46.7	45.7	45.6	45.9	44.9	51.2	46.4	51.4	46.3	46.4	47.5	+1.1
	27–30	50.0	50.6	48.8	50.4	50.9	48.9	53.6	52.0	58.8	49.1	50.2	46.5	51.9	43.5	43.5	52.0	+8.5 s
Take ecstasy (MDMA) occasionally	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	72.5	77.8	81.7	78.3	80.0	82.5	79.3	81.9	79.2	76.2	-3.0
	23–26	—	—	—	—	—	—	72.5	71.9	73.6	77.4	77.2	77.0	78.7	78.6	76.2	79.1	+2.8
	27–30	—	—	—	—	—	—	75.2	76.5	79.9	76.9	74.7	70.4	72.0	71.3	71.4	69.7	-1.8
Try cocaine once or twice	18	53.7	54.2	53.6	54.6	52.1	51.1	50.7	51.2	51.0	50.7	50.5	52.5	51.3	50.3	53.1	52.8	-0.4
	19–22	57.7	61.9	55.5	55.4	52.8	56.7	48.9	55.5	55.0	55.5	55.6	54.0	55.8	56.7	54.9	56.8	+1.9
	23–26	58.7	57.2	63.1	60.2	62.6	63.1	62.4	61.0	55.4	52.1	53.0	52.5	56.9	55.0	56.6	56.7	+0.1
	27–30	56.4	53.6	54.6	60.5	61.7	59.9	60.9	58.8	56.4	61.4	56.5	58.1	54.8	56.1	52.0	51.6	-0.5
Take cocaine occasionally	18	70.8	72.1	72.4	70.1	70.1	69.5	69.9	68.3	69.1	67.2	66.7	69.8	68.8	67.1	71.4	67.8	-3.6 s
	19–22	73.4	76.6	76.1	71.2	68.0	72.4	70.0	69.9	70.3	70.2	72.1	71.0	71.5	72.4	67.2	72.9	+5.7
	23–26	76.0	71.3	76.5	74.2	77.8	76.2	74.2	75.4	68.3	74.1	70.4	68.5	70.9	67.2	74.9	71.6	-3.3
	27–30	70.0	67.8	73.8	73.2	75.4	76.5	78.1	74.3	72.6	75.3	76.2	74.6	72.1	73.9	65.4	71.5	+6.1
Take cocaine regularly	18	87.9	88.3	87.1	86.3	85.8	86.2	84.1	84.5	83.0	82.2	82.8	84.6	83.3	80.7	84.4	81.7	-2.7 s
	19–22	91.5	92.2	91.6	88.7	88.5	90.7	85.1	88.3	87.4	87.1	89.2	86.2	86.7	87.0	88.6	87.9	-0.7
	23–26	93.3	90.6	93.2	92.9	92.7	92.9	91.1	91.5	88.5	91.5	88.0	90.9	88.0	86.5	89.2	90.9	+1.7
	27–30	91.3	91.6	92.7	93.0	92.4	92.3	94.5	91.2	92.9	91.3	94.0	90.0	89.9	91.1	88.8	92.7	+3.9
Try crack once or twice	18	54.6	56.0	54.0	52.2	48.2	48.4	49.4	50.8	47.3	47.8	48.4	47.8	47.3	47.5	48.4	50.2	+1.8
	19–22	61.9	65.2	62.0	59.3	56.1	52.9	54.1	54.1	55.1	56.8	56.6	55.3	51.9	54.9	54.9	53.7	-1.1
	23–26	64.8	68.6	64.7	67.3	64.6	63.2	59.8	60.9	58.5	56.4	60.6	54.7	58.4	50.5	50.6	58.4	+7.8 s
	27–30	66.4	66.7	68.5	66.5	65.0	62.9	69.3	67.4	66.0	62.6	61.9	56.8	64.1	56.2	56.2	62.2	+5.9
Take crack occasionally	18	72.8	71.4	70.3	68.7	67.3	65.8	65.4	65.6	64.0	64.5	63.8	64.8	63.6	65.2	64.7	64.3	-0.4
	19–22	78.8	83.5	79.1	79.1	75.5	74.9	72.3	75.3	75.3	76.0	75.0	72.8	77.7	75.7	75.7	73.6	-2.2
	23–26	81.4	85.9	80.8	84.2	81.6	84.0	80.1	82.2	77.1	76.4	78.6	76.8	79.8	75.2	75.2	77.7	+2.5
	27–30	81.1	81.3	85.3	81.7	79.8	81.6	84.4	81.5	81.9	82.1	79.5	82.8	79.1	77.3	77.3	80.1	+2.8

↓
(List of drugs continued.)

TABLE 6-1 (cont.)
Trends in Harmfulness as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	Percentage saying "great risk"[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Take crack regularly	18	—	—	—	—	—	—	—	84.6	84.8	85.6	91.6	90.1	89.3	87.5	89.6
	19–22	—	—	—	—	—	—	—	89.6	91.1	94.1	94.9	95.6	93.4	96.2	96.0
	23–26	—	—	—	—	—	—	—	88.0	89.2	91.5	94.2	95.4	94.1	93.4	94.9
	27–30	—	—	—	—	—	—	—	—	89.6	89.5	95.3	94.4	93.3	93.5	93.0
Try cocaine powder once or twice	18	—	—	—	—	—	—	—	45.3	51.7	53.8	53.9	53.6	57.1	53.2	55.4
	19–22	—	—	—	—	—	—	—	44.0	48.6	51.1	54.5	52.7	56.2	49.7	62.0
	23–26	—	—	—	—	—	—	—	41.0	43.6	48.4	48.9	47.4	45.9	45.6	52.5
	27–30	—	—	—	—	—	—	—	—	42.0	45.1	46.2	43.3	42.3	49.9	47.1
Take cocaine powder occasionally	18	—	—	—	—	—	—	—	56.8	61.9	65.8	71.1	69.8	70.8	68.6	70.6
	19–22	—	—	—	—	—	—	—	58.0	59.0	63.2	70.0	69.9	72.6	70.6	75.4
	23–26	—	—	—	—	—	—	—	50.0	53.2	62.2	63.3	67.0	65.8	64.0	68.8
	27–30	—	—	—	—	—	—	—	—	53.6	52.7	60.9	59.2	61.2	64.3	61.0
Take cocaine powder regularly	18	—	—	—	—	—	—	—	81.4	82.9	83.9	90.2	88.9	88.4	87.0	88.6
	19–22	—	—	—	—	—	—	—	86.6	87.6	91.3	92.5	93.8	92.1	94.0	94.9
	23–26	—	—	—	—	—	—	—	82.9	84.1	88.5	92.4	93.8	91.3	92.4	92.8
	27–30	—	—	—	—	—	—	—	—	85.1	86.7	92.7	91.1	91.5	92.5	90.7
Try heroin once or twice	18	52.1	52.9	51.1	50.8	49.8	47.3	45.8	53.6	54.0	53.8	55.4	55.2	50.9	50.7	52.8
	19–22	57.8	56.8	54.4	52.5	58.7	51.0	55.5	57.9	58.9	59.6	58.3	59.9	59.8	58.9	60.8
	23–26	—	—	—	—	58.2	59.2	60.8	66.6	65.4	62.3	64.1	62.4	63.7	65.0	63.3
	27–30	—	—	—	—	—	—	—	—	66.0	69.7	67.5	66.1	66.5	69.3	69.6
Take heroin occasionally	18	70.9	72.2	69.8	71.8	70.7	69.8	68.2	74.6	73.8	75.5	76.6	74.9	74.2	72.0	72.1
	19–22	77.5	77.8	73.6	74.5	74.9	73.6	77.2	77.6	77.5	79.8	80.8	80.2	81.6	78.8	79.0
	23–26	—	—	—	—	81.2	80.7	78.9	84.5	82.4	80.8	83.4	84.4	81.5	82.1	80.8
	27–30	—	—	—	—	—	—	—	—	86.0	86.8	85.3	84.3	84.9	86.2	86.8
Take heroin regularly	18	86.2	87.5	86.0	86.1	87.2	86.0	87.1	88.7	88.8	89.5	90.2	89.6	89.2	88.3	88.0
	19–22	87.2	89.9	87.5	88.6	86.8	90.2	90.7	90.2	89.6	90.8	91.2	91.5	92.2	89.2	91.2
	23–26	—	—	—	—	92.0	90.1	90.6	92.8	91.5	91.3	91.0	92.6	91.3	91.6	93.0
	27–30	—	—	—	—	—	—	—	—	92.7	93.5	93.0	90.7	91.3	92.6	93.8
Try amphetamines once or twice	18	29.7	26.4	25.3	24.7	25.4	25.2	25.1	29.1	29.6	32.8	32.2	36.3	32.6	31.3	31.4
	19–22	24.6	24.6	27.8	24.8	26.9	23.9	27.1	27.4	31.7	28.9	35.6	32.8	34.5	33.3	36.3
	23–26	—	—	—	—	29.6	29.4	29.4	34.1	33.2	32.5	35.3	31.0	32.7	32.6	32.9
	27–30	—	—	—	—	—	—	—	—	35.2	37.5	36.9	36.5	36.2	34.0	37.5
Take amphetamines regularly	18	69.1	66.1	64.7	64.8	67.1	67.2	67.3	69.4	69.8	71.2	71.2	74.1	72.4	69.9	67.0
	19–22	71.9	69.9	68.3	69.9	68.4	68.5	72.3	72.0	73.9	71.3	74.0	77.1	73.5	73.5	71.6
	23–26	—	—	—	—	75.8	77.2	75.6	78.2	77.4	76.7	77.8	79.4	76.4	76.2	73.6
	27–30	—	—	—	—	—	—	—	—	80.6	82.9	83.3	79.4	80.3	79.8	78.4
Try crystal meth. (ice)	18	—	—	—	—	—	—	—	—	—	—	—	61.6	61.9	57.5	58.3
	19-22	—	—	—	—	—	—	—	—	—	—	57.8	58.6	57.7	57.5	61.4
	23–26	—	—	—	—	—	—	—	—	—	—	56.5	56.0	55.6	52.0	61.0
	27–30	—	—	—	—	—	—	—	—	—	—	59.6	57.2	52.7	60.3	57.9
Try sedatives/ barbiturates[b] once or twice	18	30.9	28.4	27.5	27.0	27.4	26.1	25.4	30.9	29.7	32.2	32.4	35.1	32.2	29.2	29.9
	19–22	27.6	26.4	30.5	25.4	29.9	25.0	30.7	29.6	32.7	30.5	36.4	33.5	33.5	33.4	35.0
	23–26	—	—	—	—	32.2	29.9	30.2	35.5	35.8	32.9	37.9	31.8	33.5	32.8	34.0
	27–30	—	—	—	—	—	—	—	—	37.2	38.7	39.0	37.0	38.2	36.5	40.5
Take sedatives/ barbiturates[b] regularly	18	72.2	69.9	67.6	67.7	68.5	68.3	67.2	69.4	69.6	70.5	70.2	70.5	70.2	66.1	63.3
	19–22	74.0	73.3	72.7	71.3	71.6	71.7	74.5	73.0	74.0	71.7	75.5	75.5	73.6	71.1	69.4
	23–26	—	—	—	—	77.4	77.0	74.9	79.9	79.8	76.6	80.5	77.7	76.3	75.0	74.3
	27–30	—	—	—	—	—	—	—	—	81.5	83.7	84.0	79.6	78.6	80.2	78.3

Years cont.

(Table continued on next page.)

TABLE 6-1 (cont.)
Trends in Harmfulness as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	Percentage saying "great risk"[a] 1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Take crack regularly	18	88.6	88.0	86.2	85.3	85.4	85.3	85.8	84.1	83.2	83.5	83.3	82.8	82.6	83.4	84.0	83.8	-0.2
	19–22	94.2	94.7	93.3	92.8	92.3	91.1	89.6	91.1	93.8	93.3	92.5	90.3	90.3	93.6	93.6	93.1	-0.6
	23–26	95.5	96.1	91.4	95.6	94.4	95.6	93.4	94.7	92.2	92.5	93.1	93.3	93.1	91.8	91.8	93.7	+1.9
	27–30	94.0	94.3	96.0	94.3	95.2	93.5	96.8	94.2	94.4	94.0	95.2	94.1	93.6	93.1	93.1	93.9	+0.8
Try cocaine powder once or twice	18	52.0	53.2	51.4	48.5	46.1	47.0	49.0	49.5	46.2	45.4	46.2	45.8	45.1	45.1	46.5	48.2	+1.6
	19–22	55.8	57.1	53.8	53.0	47.9	48.0	47.1	47.9	49.4	48.7	50.2	48.7	46.8	48.3	48.3	44.4	-3.9
	23–26	48.9	57.2	53.6	54.1	53.8	53.2	53.9	52.5	50.8	46.0	53.3	45.8	48.1	44.1	44.2	43.9	-0.2
	27–30	48.2	48.9	49.1	49.8	49.7	52.2	53.3	54.4	56.6	52.5	52.9	49.0	53.6	47.2	47.2	52.1	+4.9
Take cocaine powder occasionally	18	69.1	68.8	67.7	65.4	64.2	64.7	63.2	64.4	61.4	61.6	60.8	61.9	59.9	61.6	62.6	62.6	0.0
	19–22	73.0	77.4	70.7	73.0	69.3	69.3	64.4	68.9	69.3	68.6	68.1	66.4	67.1	68.5	68.5	63.7	-4.8
	23–26	68.8	76.1	72.8	77.0	70.8	76.0	70.5	73.7	67.9	64.6	69.9	66.7	69.9	64.5	64.5	65.5	+1.0
	27–30	65.9	68.2	69.7	68.5	70.1	71.3	73.5	71.9	71.7	71.5	71.7	73.1	69.3	64.9	65.0	68.9	+4.0
Take cocaine powder regularly	18	87.8	86.8	86.0	84.1	84.6	85.5	84.4	84.2	82.3	81.7	82.7	82.1	81.5	82.5	83.4	81.8	-1.6
	19–22	93.5	93.8	92.8	91.5	92.4	90.7	89.8	91.0	92.0	91.6	90.7	89.1	89.5	92.3	92.3	90.7	-1.7
	23–26	92.1	94.8	90.8	93.7	93.6	94.2	92.2	93.4	89.1	89.4	91.2	92.9	92.3	90.5	90.5	91.0	+0.5
	27–30	92.7	91.7	93.0	92.3	93.1	91.5	94.0	93.3	94.1	93.1	93.9	92.4	92.5	90.1	90.2	92.1	+2.0
Try heroin once or twice	18	50.9	52.5	56.7	57.8	56.0	54.2	55.6	56.0	58.0	56.6	55.2	59.1	58.4	55.5	59.3	58.3	-1.1
	19–22	58.9	61.0	63.9	60.7	63.5	63.2	64.0	63.1	64.6	67.3	66.5	65.0	69.6	67.7	67.3	64.2	-3.1
	23–26	64.1	63.5	67.3	67.3	68.0	70.7	71.9	69.8	70.6	67.5	69.2	67.0	68.3	70.1	69.2	75.6	+6.4
	27–30	66.4	66.4	67.9	69.7	70.1	67.4	68.2	70.9	72.3	68.4	74.4	70.8	70.2	70.2	67.6	69.6	+2.0
Take heroin occasionally	18	71.0	74.8	76.3	76.9	77.3	74.6	75.9	76.6	78.5	75.7	76.0	79.1	76.2	75.3	79.7	74.8	-4.8 ss
	19–22	77.9	82.1	84.7	80.4	82.5	82.0	83.6	82.2	84.9	85.1	83.8	84.3	85.4	84.5	83.3	81.3	-2.0
	23–26	85.3	82.4	86.5	83.9	88.5	86.6	88.4	90.0	88.3	86.7	87.5	85.2	86.5	88.0	87.8	90.0	+2.2
	27–30	83.1	83.8	85.8	86.6	87.1	86.5	86.4	87.9	87.4	88.6	91.2	88.3	88.5	87.7	87.7	90.1	+2.5
Take heroin regularly	18	87.2	89.5	88.9	89.1	89.9	89.2	88.3	88.5	89.3	86.8	87.5	89.7	87.8	86.4	89.9	85.5	-4.3 sss
	19–22	89.9	94.0	93.7	92.4	92.8	94.0	91.3	92.6	93.9	94.3	94.9	94.2	93.6	92.3	92.6	90.8	-1.8
	23–26	93.5	92.7	94.4	93.4	93.7	94.8	95.9	96.3	96.5	96.0	94.8	95.8	93.1	95.7	94.5	97.1	+2.6
	27–30	92.4	92.1	93.8	95.0	93.7	94.2	94.5	95.9	94.9	95.0	97.3	95.3	94.8	95.4	93.9	97.2	+3.3 s
Try amphetamines once or twice	18	28.8	30.8	31.0	35.3	32.2	32.6	34.7	34.4	36.8	35.7	37.7	39.5	41.3	39.2	41.9	40.6	-1.3
	19–22	32.9	36.8	30.1	31.7	33.7	35.0	34.2	38.1	40.2	36.8	38.3	40.0	38.4	42.1	39.3	40.8	+1.5
	23–26	34.3	34.9	37.8	40.9	41.8	39.9	41.6	38.0	38.3	33.2	39.1	37.0	38.0	40.8	40.7	42.2	+1.5
	27–30	36.0	36.2	34.5	37.6	36.3	39.4	38.5	39.0	40.5	39.2	38.2	39.7	37.4	36.5	36.2	38.5	+2.3
Take amphetamines regularly	18	65.9	66.8	66.0	67.7	66.4	66.3	67.1	64.8	65.6	63.9	67.1	68.1	68.1	65.4	69.0	63.6	-5.4 ss
	19–22	72.2	75.8	72.3	71.9	72.4	73.4	71.1	72.7	75.0	72.4	74.1	72.1	73.8	74.2	74.7	76.9	+2.2
	23–26	80.5	78.5	79.1	77.5	78.7	79.0	77.7	77.9	80.1	75.1	80.1	78.3	77.0	76.5	73.9	80.8	+6.9 s
	27–30	77.7	75.6	77.4	81.1	82.6	80.8	79.9	79.8	81.5	77.6	78.9	78.9	77.6	78.9	80.1	81.3	+1.2
Try crystal meth. (ice)	18	54.4	55.3	54.4	52.7	51.2	51.3	52.7	53.8	51.2	52.4	54.6	59.1	60.2	62.2	63.4	64.9	+1.5
	19-22	58.9	61.1	56.4	55.8	50.6	49.2	52.5	56.5	60.0	60.3	63.1	63.5	65.0	70.0	70.0	70.7	+0.8
	23–26	57.8	64.1	60.7	58.2	61.3	60.1	59.2	57.7	58.6	55.9	63.9	63.9	66.6	65.6	65.6	70.1	+4.5
	27–30	58.5	59.1	59.8	59.9	61.0	59.7	66.4	62.5	66.6	62.8	62.6	64.9	67.9	62.0	62.0	70.2	+8.2 s
Try sedatives/ barbiturates[b] once or twice	18	26.3	29.1	26.9	29.0	26.1	25.0	25.7	26.2	27.9	24.9	24.7	28.0	27.9	25.9	29.6	28.0	-1.7
	19–22	30.5	34.1	31.4	27.7	28.5	30.3	30.0	30.7	32.7	26.7	26.9	28.9	28.1	31.9	26.2	28.7	+2.5
	23–26	34.8	35.8	37.3	40.3	39.4	37.0	38.5	34.7	36.5	22.2	29.8	26.3	25.9	28.4	31.1	36.2	+5.1
	27–30	36.6	37.2	35.7	36.7	35.2	36.3	40.9	37.3	38.6	31.4	31.7	28.8	28.0	27.8	27.5	27.4	-0.1
Take sedatives/ barbiturates[b] regularly	18	61.6	60.4	56.8	56.3	54.1	52.3	50.3	49.3	49.6	54.0	54.1	56.8	55.1	50.2	54.7	52.1	-2.6
	19–22	66.4	70.7	69.5	65.1	64.7	64.6	61.8	64.5	63.8	60.2	64.4	61.3	63.2	64.0	59.4	64.6	+5.2
	23–26	77.6	77.1	75.2	73.9	75.1	73.8	73.1	73.1	72.8	63.9	67.0	67.6	64.8	66.8	64.4	69.6	+5.3
	27–30	77.7	74.1	77.1	79.9	80.7	75.5	78.2	75.4	79.0	70.1	75.2	68.0	70.0	70.4	69.0	71.1	+2.2

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(List of drugs continued.)

TABLE 6-1 (cont.)
Trends in Harmfulness as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	Percentage saying "great risk"[a]															Years cont.
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	18	3.8	4.6	3.5	4.2	4.6	5.0	4.6	6.2	6.0	6.0	8.3	9.1	8.6	8.2	7.6	
	19–22	3.0	3.4	3.1	2.3	4.7	3.1	5.4	3.5	3.9	5.9	6.1	5.4	5.8	6.6	6.5	
	23–26	—	—	—	—	5.5	3.0	6.5	6.6	4.2	5.1	5.7	4.4	5.6	3.2	4.5	
	27–30	—	—	—	—	—	—	—	—	5.0	6.3	4.4	6.6	5.6	4.7	4.1	
Take one or two drinks nearly every day	18	20.3	21.6	21.6	21.6	23.0	24.4	25.1	26.2	27.3	28.5	31.3	32.7	30.6	28.2	27.0	
	19–22	22.7	22.9	23.2	23.2	25.0	26.3	27.3	26.1	26.5	28.1	30.1	29.1	30.2	28.0	27.5	
	23–26	—	—	—	—	27.8	27.4	26.9	30.2	29.1	27.8	31.1	30.4	31.6	25.9	26.2	
	27–30	—	—	—	—	—	—	—	—	27.4	31.7	32.2	31.7	30.9	28.0	27.4	
Take four or five drinks nearly every day	18	65.7	64.5	65.5	66.8	68.4	69.8	66.5	69.7	68.5	69.8	70.9	69.5	70.5	67.8	66.2	
	19–22	71.2	72.7	73.3	72.7	76.2	74.1	74.0	76.4	72.8	75.7	76.1	75.5	71.8	72.1	70.3	
	23–26	—	—	—	—	76.7	77.9	80.1	77.2	81.8	76.9	79.7	80.2	78.0	76.7	77.5	
	27–30	—	—	—	—	—	—	—	—	79.3	81.7	84.7	79.1	79.9	79.1	76.6	
Have five or more drinks once or twice each weekend	18	35.9	36.3	36.0	38.6	41.7	43.0	39.1	41.9	42.6	44.0	47.1	48.6	49.0	48.3	46.5	
	19–22	34.2	30.1	33.5	36.6	37.9	40.2	34.6	36.7	36.9	42.4	40.6	40.8	41.8	42.4	41.9	
	23–26	—	—	—	—	38.4	39.7	39.1	39.8	35.8	37.7	40.2	39.3	37.6	36.2	40.2	
	27–30	—	—	—	—	—	—	—	—	41.0	42.3	44.1	42.2	45.1	42.9	43.2	
Smoke one or more packs of cigarettes per day	18	63.7	63.3	60.5	61.2	63.8	66.5	66.0	68.6	68.0	67.2	68.2	69.4	69.2	69.5	67.6	
	19–22	66.5	61.7	64.0	62.1	69.1	71.4	70.4	70.6	71.0	73.4	72.5	77.9	72.6	76.0	71.2	
	23–26	—	—	—	—	71.1	70.1	75.7	73.6	75.5	71.4	78.5	75.3	76.3	78.4	76.4	
	27–30	—	—	—	—	—	—	—	—	72.8	75.2	77.8	75.4	77.6	75.0	75.3	
Use smokeless tobacco regularly	18	—	—	—	—	—	—	25.8	30.0	33.2	32.9	34.2	37.4	35.5	38.9	36.6	
	19–22	—	—	—	—	—	—	29.7	34.1	31.1	37.1	33.5	38.9	40.1	43.3	37.6	
	23–26	—	—	—	—	—	—	37.0	38.5	35.8	37.9	40.1	38.9	41.6	44.6	42.9	
	27–30	—	—	—	—	—	—	—	—	42.8	42.8	43.8	44.3	44.1	47.3	46.3	
Approximate Weighted N =	18	*3,234*	*3,604*	*3,557*	*3,305*	*3,262*	*3,250*	*3,020*	*3,315*	*3,276*	*2,796*	*2,553*	*2,549*	*2,684*	*2,759*	*2,591*	
	19–22	*590*	*585*	*583*	*585*	*579*	*547*	*581*	*570*	*551*	*565*	*552*	*533*	*527*	*480*	*490*	
	23–26					*540*	*512*	*545*	*531*	*527*	*498*	*511*	*505*	*518*	*503*	*465*	
	27–30									*513*	*587*	*490*	*486*	*482*	*473*	*443*	

(Table continued on next page.)

TABLE 6-1 (cont.)
Trends in Harmfulness as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	Percentage saying "great risk"[a] 1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	18	5.9	7.3	6.7	8.0	8.3	6.4	8.7	7.6	8.4	8.6	8.5	9.3	10.5	10.0	9.4	10.8	+1.3
	19–22	4.5	3.3	3.2	4.2	5.7	5.4	4.8	6.6	7.5	5.1	3.8	7.7	5.1	7.9	4.1	6.8	+2.7
	23–26	4.3	4.8	4.4	4.4	6.6	3.5	5.5	5.1	5.7	4.7	5.3	5.1	4.8	6.5	5.7	5.5	-0.2
	27–30	6.7	4.7	4.0	6.2	5.9	4.7	5.5	3.1	6.9	4.6	7.3	4.2	6.2	3.4	4.1	4.7	+0.6
Take one or two drinks nearly every day	18	24.8	25.1	24.8	24.3	21.8	21.7	23.4	21.0	20.1	23.0	23.7	25.3	25.1	24.2	23.7	25.4	+1.7
	19–22	24.0	23.0	24.2	22.1	23.9	22.1	19.6	22.7	19.8	21.3	22.1	22.0	19.0	24.4	20.6	20.8	+0.2
	23–26	26.1	22.0	20.2	21.0	26.0	21.7	23.5	23.4	19.1	22.9	19.9	22.5	21.2	21.0	21.1	20.8	-0.4
	27–30	27.2	24.0	24.8	20.8	25.3	22.0	22.7	21.7	21.4	21.8	23.7	20.2	21.5	21.5	20.6	18.2	-2.4
Take four or five drinks nearly every day	18	62.8	65.6	63.0	62.1	61.1	59.9	60.7	58.8	57.8	59.2	61.8	63.4	61.8	60.8	62.4	61.1	-1.3
	19–22	72.5	68.5	71.4	70.4	69.9	69.9	64.5	71.1	66.4	65.3	63.0	66.6	68.8	68.5	67.1	65.6	-1.5
	23–26	75.2	72.0	75.1	69.3	72.8	71.7	75.8	74.9	71.1	74.2	71.2	72.4	70.2	70.0	67.8	68.3	+0.5
	27–30	82.2	76.1	79.3	75.7	75.1	77.4	72.8	76.2	70.6	72.1	77.5	73.0	76.5	77.1	71.6	71.6	+0.1
Have five or more drinks once or twice each weekend	18	45.2	49.5	43.0	42.8	43.1	42.7	43.6	42.2	43.5	43.6	45.0	47.6	45.8	46.3	48.0	46.3	-1.6
	19–22	39.9	40.7	36.6	42.0	37.2	38.9	37.2	37.8	40.4	38.1	37.5	37.2	43.4	41.7	35.2	40.7	+5.5
	23–26	37.9	39.1	37.4	41.1	40.2	34.9	39.0	36.8	36.3	37.9	36.8	38.4	39.7	37.0	36.2	35.8	-0.4
	27–30	44.6	41.5	40.0	40.2	41.9	37.9	41.6	40.6	42.5	40.5	44.0	39.1	40.4	40.4	40.1	38.6	-1.5
Smoke one or more packs of cigarettes per day	18	65.6	68.2	68.7	70.8	70.8	73.1	73.3	74.2	72.1	74.0	76.5	77.6	77.3	74.0	74.9	75.0	0.0
	19–22	71.6	73.8	76.3	77.2	75.7	77.1	76.6	80.6	77.8	81.1	80.5	80.8	79.3	79.5	80.3	79.7	-0.6
	23–26	76.0	76.0	77.6	76.5	80.9	79.7	83.9	85.1	83.6	84.1	81.6	86.4	80.7	83.6	82.0	83.2	+1.2
	27–30	75.6	73.0	80.3	80.9	80.7	78.4	82.7	80.6	82.0	81.7	84.1	83.8	84.3	86.6	83.6	89.3	+5.7 s
Use smokeless tobacco regularly	18	33.2	37.4	38.6	40.9	41.1	42.2	45.4	42.6	43.3	45.0	43.6	45.9	44.0	42.9	40.8	41.2	+0.4
	19–22	42.3	40.9	46.5	47.4	47.0	52.0	48.4	53.6	50.8	49.9	47.6	46.4	48.9	48.7	44.6	45.8	+1.2
	23–26	46.6	47.2	46.2	48.4	53.1	49.8	59.8	61.4	58.9	57.8	55.8	59.1	55.3	51.0	52.2	54.2	+2.1
	27–30	44.2	43.6	50.2	52.6	53.6	49.9	53.2	56.7	58.2	55.7	58.9	57.5	61.4	61.7	53.6	59.2	+5.6
Approximate Weighted N =	18	*2,603*	*2,449*	*2,579*	*2,564*	*2,306*	*2,130*	*2,173*	*2,198*	*2,466*	*2,491*	*2,512*	*2,407*	*2,450*	*2,389*	*2,290*	*2,300*	
	19–22	*500*	*469*	*464*	*431*	*447*	*424*	*430*	*395*	*402*	*447*	*412*	*411*	*375*	*377*	*393*	*363*	
	23–26	*446*	*438*	*420*	*413*	*418*	*400*	*392*	*382*	*401*	*426*	*408*	*361*	*351*	*375*	*345*	*363*	
	27–30	*450*	*422*	*434*	*416*	*400*	*377*	*384*	*369*	*380*	*388*	*374*	*358*	*344*	*350*	*337*	*343*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

' — ' indicates data not available.

[a]Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

[b]In 2004 the question text was changed from "barbiturates" to "sedatives/barbiturates" and the list of examples was changed from "downers, goofballs, reds, yellows, etc." to just "downers." These changes likely explain the discontinuity in the 2003 and 2004 results.

TABLE 6-2
Trends in Proportions Disapproving of Drug Use among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Percentage disapproving[a]

Q. Do you disapprove of people (who are 18 or older) doing each of the following?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Trying marijuana once or twice	18	39.0	40.0	45.5	46.3	49.3	51.4	54.6	56.6	60.8	64.6	67.8	68.7	69.9	63.3	57.6
	19–22	38.2	36.1	37.0	42.0	44.1	46.6	51.6	52.8	55.8	62.4	59.6	60.4	57.8	60.6	63.5
	23–26	—	—	—	—	41.2	38.6	42.6	49.1	48.7	52.5	57.5	58.8	55.0	54.6	52.3
	27–30	—	—	—	—	—	—	—	—	49.0	50.9	53.8	54.6	51.9	56.8	55.7
Smoking marijuana occasionally	18	49.7	52.6	59.1	60.7	63.5	65.8	69.0	71.6	74.0	77.2	80.5	79.4	79.7	75.5	68.9
	19–22	49.6	49.1	51.3	56.0	60.4	62.6	66.7	67.2	69.5	77.3	76.3	77.0	74.8	75.8	76.9
	23–26	—	—	—	—	54.8	52.8	57.0	64.9	63.4	69.4	73.7	73.3	74.0	71.9	70.9
	27–30	—	—	—	—	—	—	—	—	65.3	67.1	68.9	73.0	67.2	72.2	69.4
Smoking marijuana regularly	18	74.6	77.4	80.6	82.5	84.7	85.5	86.6	89.2	89.3	89.8	91.0	89.3	90.1	87.6	82.3
	19–22	74.3	77.2	80.0	81.8	84.9	86.7	89.2	88.7	89.1	91.2	93.1	91.3	89.5	90.2	90.1
	23–26	—	—	—	—	80.6	81.3	83.3	87.4	86.9	90.4	91.0	89.6	90.2	92.1	90.3
	27–30	—	—	—	—	—	—	—	—	87.6	87.5	89.7	89.6	87.2	89.4	88.7
Trying LSD once or twice	18	87.3	86.4	88.8	89.1	88.9	89.5	89.2	91.6	89.8	89.7	89.8	90.1	88.1	85.9	82.5
	19–22	87.4	84.8	85.9	88.4	88.1	89.1	90.4	90.0	90.9	89.3	90.5	88.4	84.6	88.5	86.8
	23–26	—	—	—	—	87.3	87.1	88.0	89.9	91.4	91.0	90.7	89.1	88.8	86.9	87.3
	27–30	—	—	—	—	—	—	—	—	91.0	87.2	89.7	87.9	85.6	88.8	88.2
Taking LSD regularly	18	96.7	96.8	96.7	97.0	96.8	97.0	96.6	97.8	96.4	96.4	96.3	96.4	95.5	95.8	94.3
	19–22	98.2	97.4	97.7	97.6	97.6	98.8	98.5	98.0	98.1	97.5	99.1	97.5	97.0	97.8	97.7
	23–26	—	—	—	—	99.2	98.0	98.5	99.0	98.0	98.4	98.3	98.4	98.3	98.1	97.7
	27–30	—	—	—	—	—	—	—	—	98.8	97.1	98.9	98.9	97.5	98.5	98.7
Trying ecstasy (MDMA) once or twice	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Taking ecstasy (MDMA) occasionally	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trying cocaine once or twice	18	76.3	74.6	76.6	77.0	79.7	79.3	80.2	87.3	89.1	90.5	91.5	93.6	93.0	92.7	91.6
	19–22	73.0	69.3	69.9	74.1	72.5	77.6	78.9	82.3	85.3	88.8	90.1	91.2	90.6	92.7	93.9
	23–26	—	—	—	—	70.2	70.5	72.1	80.0	82.9	85.5	88.3	88.0	87.3	89.2	89.2
	27–30	—	—	—	—	—	—	—	—	82.1	81.0	85.5	86.9	83.9	85.7	86.6
Taking cocaine regularly	18	91.1	90.7	91.5	93.2	94.5	93.8	94.3	96.7	96.2	96.4	96.7	97.3	96.9	97.5	96.6
	19–22	91.6	89.3	91.9	94.6	95.0	96.3	97.0	97.2	97.9	97.4	98.9	97.9	98.4	97.8	98.8
	23–26	—	—	—	—	95.7	95.3	97.3	98.1	97.6	98.3	98.4	98.5	98.7	98.4	98.8
	27–30	—	—	—	—	—	—	—	—	98.1	97.0	99.3	99.0	97.2	98.7	99.0
Trying heroin once or twice	18	93.5	93.5	94.6	94.3	94.0	94.0	93.3	96.2	95.0	95.4	95.1	96.0	94.9	94.4	93.2
	19–22	96.3	95.4	95.6	95.2	95.1	96.2	96.8	96.3	97.1	96.4	98.3	95.9	95.9	96.3	96.6
	23–26	—	—	—	—	96.7	94.9	96.4	97.1	97.4	96.7	96.8	96.9	96.3	95.4	96.5
	27–30	—	—	—	—	—	—	—	—	97.9	95.8	97.5	96.6	94.8	97.3	94.7
Taking heroin occasionally	18	96.7	97.2	96.9	96.9	97.1	96.8	96.6	97.9	96.9	97.2	96.7	97.3	96.8	97.0	96.2
	19–22	98.6	97.8	98.3	98.3	98.6	98.7	98.3	98.3	98.3	97.9	99.2	98.2	98.1	98.1	98.3
	23–26	—	—	—	—	99.2	98.2	98.8	99.1	98.4	98.3	98.1	99.0	98.7	98.4	98.6
	27–30	—	—	—	—	—	—	—	—	99.2	97.3	99.0	98.9	97.0	98.9	98.7
Taking heroin regularly	18	97.6	97.8	97.5	97.7	98.0	97.6	97.6	98.1	97.2	97.4	97.5	97.8	97.2	97.5	97.1
	19–22	99.2	98.5	98.6	98.7	98.7	99.1	98.9	98.6	98.4	98.3	99.5	98.5	98.3	98.4	98.8
	23–26	—	—	—	—	99.4	98.8	99.1	99.4	98.7	98.7	98.5	99.3	99.2	98.9	98.8
	27–30	—	—	—	—	—	—	—	—	99.4	97.6	99.4	99.0	97.8	99.0	99.4

Years cont.

(Table continued on next page.)

TABLE 6-2 (cont.)
Trends in Proportions Disapproving of Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. Do you disapprove of people (who are 18 or older) doing each of the following?	Age Group	Percentage disapproving[a] 1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Trying marijuana once or twice	18	56.7	52.5	51.0	51.6	48.8	52.5	49.1	51.6	53.4	52.7	55.0	55.6	58.6	55.5	54.8	51.6	-3.2
	19–22	57.1	55.4	56.2	55.9	54.0	55.2	49.3	48.7	54.2	48.3	50.3	51.2	47.6	52.7	46.7	50.5	+3.8
	23–26	51.9	56.3	54.5	55.3	55.7	54.8	51.2	52.4	47.8	53.4	47.7	47.5	54.6	46.2	44.9	42.5	-2.4
	27–30	57.5	54.1	59.0	55.7	52.6	58.0	54.4	56.9	54.9	55.4	52.1	52.0	50.9	49.3	49.3	48.5	-0.8
Smoking marijuana occasionally	18	66.7	62.9	63.2	64.4	62.5	65.8	63.2	63.4	64.2	65.4	67.8	69.3	70.2	67.3	65.6	62.0	-3.6 s
	19–22	70.4	68.9	70.2	67.8	66.4	70.7	64.6	62.3	68.0	64.3	67.9	62.6	64.1	63.3	59.8	61.3	+1.5
	23–26	68.1	72.5	69.2	70.4	71.1	68.6	67.4	64.0	63.8	69.3	65.6	62.2	68.0	64.5	62.4	59.1	-3.4
	27–30	72.5	70.5	74.5	72.4	71.5	72.2	70.9	69.1	71.2	69.1	68.2	68.7	67.5	63.7	63.7	62.7	-1.0
Smoking marijuana regularly	18	81.9	80.0	78.8	81.2	78.6	79.7	79.3	78.3	78.7	80.7	82.0	82.2	83.3	79.6	80.3	77.7	-2.6
	19–22	86.8	87.7	88.1	85.3	84.5	86.6	84.5	82.8	84.8	82.7	84.4	82.5	83.7	83.6	80.8	80.7	-0.1
	23–26	90.1	88.9	88.1	87.5	86.1	83.9	86.4	81.7	82.3	87.4	84.3	81.9	85.3	84.3	80.2	78.3	-1.9
	27–30	91.9	89.9	92.1	89.2	90.0	89.5	89.3	88.8	87.7	88.6	86.3	86.4	86.8	86.0	84.4	81.7	-2.6
Trying LSD once or twice	18	81.1	79.6	80.5	82.1	83.0	82.4	81.8	84.6	85.5	87.9	87.9	88.0	87.8	85.5	88.2	86.5	-1.8
	19–22	84.2	83.0	83.1	80.8	83.2	82.3	81.4	83.7	86.2	85.0	87.6	85.4	88.5	86.5	83.0	86.7	+3.7
	23–26	87.1	86.7	87.9	84.1	84.8	80.3	83.0	79.2	80.1	84.0	84.0	84.5	87.6	81.8	85.0	82.6	-2.4
	27–30	87.4	88.7	88.7	87.3	86.6	87.2	85.7	82.7	85.6	82.5	82.2	82.0	84.1	82.7	84.5	85.1	+0.6
Taking LSD regularly	18	92.5	93.2	92.9	93.5	94.3	94.2	94.0	94.0	94.4	94.6	95.6	95.9	94.9	93.5	95.3	94.3	-1.0
	19–22	96.8	97.0	97.4	96.3	97.0	96.8	96.5	96.9	98.4	97.3	98.9	97.8	97.7	96.8	96.8	96.6	-0.2
	23–26	96.7	97.7	96.1	97.6	98.0	97.0	97.1	97.9	96.9	97.1	98.7	97.0	98.4	97.4	98.2	96.5	-1.7
	27–30	98.6	98.1	97.5	97.4	97.9	98.6	98.2	98.0	98.2	98.2	97.2	96.7	97.2	97.1	98.6	98.6	-0.1
Trying ecstasy (MDMA) once or twice	18	—	—	82.2	82.5	82.1	81.0	79.5	83.6	84.7	87.7	88.4	89.0	87.8	88.2	88.2	86.3	-1.9
	19–22	—	—	—	—	—	—	81.5	80.3	87.2	83.5	90.3	87.5	88.5	89.5	89.1	91.4	+2.2
	23–26	—	—	—	—	—	—	80.6	80.6	80.2	83.1	83.9	83.9	87.4	83.9	85.0	86.9	+1.9
	27–30	—	—	—	—	—	—	84.2	84.0	86.3	83.2	82.4	82.2	81.8	82.7	83.0	81.9	-1.0
Taking ecstasy (MDMA) occasionally	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	92.8	91.8	95.6	93.8	96.7	94.0	95.3	94.8	95.2	95.3	+0.1
	23–26	—	—	—	—	—	—	90.5	91.8	92.1	93.3	94.4	93.7	94.3	94.0	95.4	94.3	-1.1
	27–30	—	—	—	—	—	—	91.7	93.0	94.3	91.0	92.1	93.4	92.8	94.1	93.6	92.6	-1.0
Trying cocaine once or twice	18	90.3	90.0	88.0	89.5	89.1	88.2	88.1	89.0	89.3	88.6	88.9	89.1	89.6	89.2	90.8	90.5	-0.3
	19–22	94.2	92.0	91.7	89.9	90.9	89.9	87.7	87.9	89.3	87.7	92.3	88.2	89.2	85.8	87.8	87.1	-0.8
	23–26	91.8	90.7	91.5	89.0	91.3	87.1	90.1	85.8	86.4	87.4	88.3	84.4	87.6	84.5	86.2	86.0	-0.1
	27–30	86.6	88.3	89.2	90.3	90.4	89.4	90.3	88.5	91.5	88.0	87.0	85.8	87.7	87.4	88.3	87.3	-1.0
Taking cocaine regularly	18	96.1	95.6	96.0	95.6	94.9	95.5	94.9	95.0	95.8	95.4	96.0	96.1	96.2	94.8	96.5	96.0	-0.5
	19–22	98.2	97.9	98.0	97.8	97.6	98.0	97.2	97.0	98.2	98.5	98.7	98.9	99.0	97.6	97.6	97.6	0.0
	23–26	97.7	97.8	96.9	98.5	98.3	97.8	97.5	97.5	97.6	98.1	98.9	97.3	98.1	98.0	98.7	97.6	-1.1
	27–30	98.9	98.5	97.9	97.8	98.8	98.7	98.4	97.8	98.8	98.8	97.8	97.2	97.9	97.3	99.0	99.0	0.0
Trying heroin once or twice	18	92.8	92.1	92.3	93.7	93.5	93.0	93.1	94.1	94.1	94.2	94.3	93.8	94.8	93.3	94.7	93.9	-0.8
	19–22	95.6	95.2	95.6	95.1	95.5	94.1	94.2	95.0	96.4	95.9	98.8	95.6	97.6	95.7	95.5	95.8	+0.3
	23–26	95.9	96.1	95.2	94.6	96.3	93.1	95.0	94.8	95.0	95.0	96.1	93.7	97.2	95.6	94.9	94.5	-0.3
	27–30	96.3	96.0	96.9	95.9	96.7	95.9	96.4	94.4	97.6	94.9	95.6	93.9	96.4	96.2	95.4	96.3	+0.9
Taking heroin occasionally	18	95.7	95.0	95.4	96.1	95.7	96.0	95.4	95.6	95.9	96.4	96.3	96.2	96.8	95.3	96.9	96.2	-0.8
	19–22	97.7	97.9	97.8	98.2	97.2	98.0	97.9	97.9	98.3	98.9	99.4	98.2	98.8	97.3	97.9	97.5	-0.4
	23–26	97.7	98.7	97.4	97.5	98.5	98.2	97.8	97.5	97.2	98.5	98.3	97.7	98.8	98.3	98.5	97.1	-1.5
	27–30	98.9	98.0	98.7	97.6	98.8	98.6	98.4	98.6	98.7	98.1	97.7	97.1	98.1	98.2	98.6	99.3	+0.7
Taking heroin regularly	18	96.4	96.3	96.4	96.6	96.4	96.6	96.2	96.2	97.1	97.1	96.7	96.9	97.1	95.9	97.4	96.4	-1.0
	19–22	98.4	98.3	98.1	98.3	98.2	98.5	98.2	98.3	98.8	99.0	99.2	98.9	99.1	98.3	98.1	97.6	-0.5
	23–26	98.7	98.9	97.6	98.5	98.7	98.8	98.4	98.3	98.6	98.9	98.9	98.0	99.0	99.1	99.2	97.6	-1.6
	27–30	99.1	98.6	98.4	98.1	98.8	98.7	98.7	98.4	99.3	98.8	99.1	97.5	98.2	98.4	99.0	99.3	+0.4

(List of drugs continued.)

TABLE 6-2 (cont.)
Trends in Proportions Disapproving of Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Percentage disapproving[a]

Q. Do you disapprove of people (who are 18 or older) doing each of the following?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Trying amphetamines once or twice	18	75.4	71.1	72.6	72.3	72.8	74.9	76.5	80.7	82.5	83.3	85.3	86.5	86.9	84.2	81.3
	19–22	74.5	70.5	68.9	74.0	73.0	75.6	78.9	79.9	81.8	85.3	84.4	83.9	83.8	87.2	88.3
	23–26	—	—	—	—	74.2	74.2	74.6	80.3	83.5	83.3	84.1	84.8	83.4	84.8	82.7
	27–30	—	—	—	—	—	—	—	—	83.5	81.0	84.3	83.7	80.9	83.5	82.0
Taking amphetamines regularly	18	93.0	91.7	92.0	92.6	93.6	93.3	93.5	95.4	94.2	94.2	95.5	96.0	95.6	96.0	94.1
	19–22	94.8	93.3	94.3	93.4	94.9	96.6	96.9	95.1	97.5	96.8	97.5	97.7	96.7	97.3	97.9
	23–26	—	—	—	—	96.6	95.9	96.6	97.0	97.2	98.1	97.9	97.9	97.7	98.4	97.7
	27–30	—	—	—	—	—	—	—	—	98.1	96.5	98.6	97.8	96.8	97.7	99.0
Trying sedatives/ barbiturates[b] once or twice	18	83.9	82.4	84.4	83.1	84.1	84.9	86.8	89.6	89.4	89.3	90.5	90.6	90.3	89.7	87.5
	19–22	83.5	82.3	83.8	85.1	85.2	86.1	88.3	87.5	90.1	92.0	91.1	90.4	88.8	90.7	91.1
	23–26	—	—	—	—	84.0	84.5	84.4	89.8	90.7	89.4	88.8	87.9	88.8	88.5	88.0
	27–30	—	—	—	—	—	—	—	—	90.5	88.3	88.4	88.8	86.6	88.9	87.6
Taking sedatives/ barbiturates[b] regularly	18	95.4	94.2	94.4	95.1	95.1	95.5	94.9	96.4	95.3	95.3	96.4	97.1	96.5	97.0	96.1
	19–22	96.6	95.6	97.3	96.5	96.6	98.1	98.0	97.0	97.9	97.7	98.7	98.0	97.9	98.2	98.7
	23–26	—	—	—	—	98.4	98.5	97.7	98.6	98.3	98.3	98.5	98.5	98.6	98.5	98.5
	27–30	—	—	—	—	—	—	—	—	98.4	97.1	99.1	98.5	97.7	98.4	99.1
Trying one or two drinks of an alcoholic beverage (beer, wine, liquor)	18	16.0	17.2	18.2	18.4	17.4	20.3	20.9	21.4	22.6	27.3	29.4	29.8	33.0	30.1	28.4
	19–22	14.8	14.5	13.9	15.5	15.3	15.4	16.9	16.0	18.4	22.4	17.6	22.2	16.9	20.8	22.2
	23–26	—	—	—	—	17.4	16.1	13.2	17.7	13.7	17.5	18.6	19.5	17.4	18.1	17.6
	27–30	—	—	—	—	—	—	—	—	19.5	19.1	18.7	18.8	17.9	19.5	18.6
Taking one or two drinks nearly every day	18	69.0	69.1	69.9	68.9	72.9	70.9	72.8	74.2	75.0	76.5	77.9	76.5	75.9	77.8	73.1
	19–22	67.8	69.7	71.3	73.3	74.3	71.3	77.4	75.3	76.5	80.0	79.7	77.1	76.0	75.0	78.0
	23–26	—	—	—	—	71.4	73.7	71.6	72.7	74.6	74.4	77.6	76.9	75.5	74.2	73.3
	27–30	—	—	—	—	—	—	—	—	76.0	73.9	73.3	76.1	69.5	73.5	72.4
Taking four or five drinks nearly every day	18	90.8	91.8	90.9	90.0	91.0	92.0	91.4	92.2	92.8	91.6	91.9	90.6	90.8	90.6	89.8
	19–22	95.2	93.4	94.6	94.6	94.6	94.8	94.9	95.7	94.8	96.1	95.8	96.4	95.5	95.1	96.2
	23–26	—	—	—	—	96.2	95.0	95.5	96.9	94.3	95.9	96.9	96.1	95.7	95.7	95.7
	27–30	—	—	—	—	—	—	—	—	97.4	94.6	96.1	95.3	94.8	94.8	96.4
Having five or more drinks once or twice each weekend	18	55.6	55.5	58.8	56.6	59.6	60.4	62.4	62.0	65.3	66.5	68.9	67.4	70.7	70.1	65.1
	19–22	57.1	56.1	58.2	61.0	59.7	59.4	60.3	61.6	64.1	66.3	67.1	62.4	65.6	63.5	68.1
	23–26	—	—	—	—	66.2	68.3	66.5	67.5	65.2	63.2	66.9	64.6	69.6	66.8	66.9
	27–30	—	—	—	—	—	—	—	—	73.9	71.4	73.1	72.1	68.4	73.4	73.5
Smoking one or more packs of cigarettes per day	18	70.8	69.9	69.4	70.8	73.0	72.3	75.4	74.3	73.1	72.4	72.8	71.4	73.5	70.6	69.8
	19–22	68.7	68.1	66.3	71.6	69.0	70.5	71.4	72.7	73.8	75.6	73.7	73.2	72.6	72.8	75.3
	23–26	—	—	—	—	69.9	68.7	67.5	69.7	66.4	71.1	71.5	77.2	73.6	72.9	70.3
	27–30	—	—	—	—	—	—	—	—	72.8	69.4	73.5	71.2	70.7	73.8	72.3
Approximate Weighted N =	18	*3,261*	*3,610*	*3,651*	*3,341*	*3,254*	*3,265*	*3,113*	*3,302*	*3,311*	*2,799*	*2,566*	*2,547*	*2,645*	*2,723*	*2,588*
	19–22	*588*	*573*	*605*	*579*	*586*	*551*	*605*	*587*	*560*	*567*	*569*	*533*	*530*	*489*	*474*
	23–26					*542*	*535*	*560*	*532*	*538*	*516*	*524*	*495*	*538*	*514*	*475*
	27–30									*526*	*509*	*513*	*485*	*512*	*462*	*442*

Years cont.

(Table continued on next page.)

TABLE 6-2 (cont.)
Trends in Proportions Disapproving of Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. Do you disapprove of people (who are 18 or older) doing each of the following?	Age Group	Percentage disapproving[a] 1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Trying amphetamines once or twice	18	82.2	79.9	81.3	82.5	81.9	82.1	82.3	83.8	85.8	84.1	86.1	86.3	87.3	87.2	88.2	88.1	-0.1
	19–22	85.0	84.4	83.3	84.6	84.9	83.8	82.1	81.4	86.3	82.1	88.2	84.9	84.8	86.7	85.4	86.9	+1.5
	23–26	86.0	86.4	85.7	83.5	84.5	82.4	83.9	83.5	79.9	81.6	81.3	79.0	85.8	79.7	84.4	84.1	-0.3
	27–30	83.1	85.8	86.3	85.9	86.4	84.5	86.0	86.4	84.9	82.4	81.3	81.1	84.5	83.7	82.9	84.3	+1.4
Taking amphetamines regularly	18	94.3	93.5	94.3	94.0	93.7	94.1	93.4	93.5	94.0	93.9	94.8	95.3	95.4	94.2	95.6	94.9	-0.7
	19–22	96.8	97.2	97.8	96.7	97.5	96.1	97.3	96.4	97.1	97.1	98.4	97.5	98.6	96.2	96.8	96.2	-0.7
	23–26	97.0	97.9	97.0	98.0	97.0	97.6	96.8	96.3	97.2	95.9	98.3	96.2	97.6	97.3	98.1	96.8	-1.3
	27–30	98.9	98.2	98.1	97.7	98.2	98.5	97.6	97.4	98.1	98.0	97.6	96.4	98.4	97.2	98.1	98.0	-0.1
Trying s barbiturates[b] once or twice	18	87.3	84.9	86.4	86.0	86.6	85.9	85.9	86.6	87.8	83.7	85.4	85.3	86.5	86.1	87.7	87.6	-0.1
	19–22	90.5	89.1	86.6	85.8	86.6	84.2	85.2	84.2	87.7	81.8	86.6	83.4	82.7	82.1	84.7	85.2	+0.5
	23–26	89.3	88.3	88.3	87.4	87.3	85.2	86.9	86.8	81.8	80.3	81.6	80.5	84.3	77.7	83.3	80.9	-2.4
	27–30	88.0	89.4	88.8	88.4	87.6	87.3	88.5	86.9	89.2	81.8	78.7	80.1	83.5	80.5	82.5	80.3	-2.2
Taking sedatives/ barbiturates[b] regularly	18	95.2	94.8	95.3	94.6	94.7	95.2	94.5	94.7	94.4	94.2	95.2	95.1	94.6	94.3	95.8	94.7	-1.1
	19–22	97.7	97.9	97.7	97.7	97.3	97.4	96.9	97.8	98.5	96.6	98.3	98.1	98.3	96.7	96.7	96.3	-0.4
	23–26	97.4	98.4	97.4	98.5	97.6	97.4	97.0	97.1	97.1	96.1	98.0	96.3	97.8	96.7	98.4	95.7	-2.7 s
	27–30	99.0	98.5	97.9	97.7	98.5	98.1	98.4	97.2	98.4	98.1	96.5	95.6	97.4	97.4	98.4	98.6	+0.3
Trying one or two drinks of an alcoholic beverage (beer, wine, liquor)	18	27.3	26.5	26.1	24.5	24.6	25.2	26.6	26.3	27.2	26.0	26.4	29.0	31.0	29.8	30.6	30.7	+0.1
	19–22	22.0	22.0	18.3	21.5	18.3	18.4	16.3	18.3	20.1	20.7	22.3	17.8	17.3	20.5	19.1	23.7	+4.6
	23–26	16.5	18.0	15.8	18.6	19.1	19.9	15.9	18.1	13.0	16.3	13.5	14.7	14.9	12.5	16.0	15.4	-0.6
	27–30	18.2	16.1	17.4	15.2	15.9	14.8	15.9	18.4	15.4	18.8	16.1	15.0	14.2	11.9	11.5	13.3	+1.8
Taking one or two drinks nearly every day	18	73.3	70.8	70.0	69.4	67.2	70.0	69.2	69.1	68.9	69.5	70.8	72.8	73.3	74.5	70.5	71.5	+1.0
	19–22	74.7	73.5	73.2	70.3	67.3	66.7	68.3	63.9	66.9	68.1	64.6	68.2	65.1	65.2	67.4	68.4	+1.0
	23–26	69.7	70.6	68.4	70.2	73.4	66.3	66.5	62.7	65.0	61.7	64.4	62.0	62.4	66.4	62.0	62.5	+0.5
	27–30	71.8	71.4	71.8	69.8	67.9	65.9	68.9	70.9	63.1	66.7	60.5	62.0	65.8	59.5	63.7	61.4	-2.3
Taking four or five drinks nearly every day	18	88.8	89.4	88.6	86.7	86.9	88.4	86.4	87.5	86.3	87.8	89.4	90.6	90.5	89.8	89.7	88.8	-0.9
	19–22	95.5	94.2	93.9	92.4	92.4	92.8	94.2	92.6	92.5	92.2	93.2	92.9	92.9	94.0	93.6	92.2	-1.4
	23–26	95.2	96.5	93.8	96.1	95.1	94.3	93.5	93.7	92.6	93.1	94.8	92.9	95.6	94.9	94.6	93.9	-0.7
	27–30	96.7	96.4	96.2	95.0	97.2	95.3	96.1	95.4	95.6	96.0	92.8	92.7	95.0	93.9	96.0	94.3	-1.7
Having five or more drinks once or twice each weekend	18	66.7	64.7	65.0	63.8	62.7	65.2	62.9	64.7	64.2	65.7	66.5	68.5	68.8	68.9	67.6	68.8	+1.2
	19–22	66.0	69.2	66.5	63.2	63.5	65.1	58.3	57.5	61.9	59.4	60.1	59.3	59.1	63.4	62.3	62.7	+0.4
	23–26	65.3	70.9	66.6	69.5	68.1	66.2	66.0	61.2	65.5	60.9	64.5	59.7	62.4	63.0	59.5	61.7	+2.2
	27–30	73.7	72.4	73.0	71.1	73.1	73.1	73.0	70.9	71.5	73.8	67.5	67.3	71.5	66.4	65.8	67.5	+1.8
Smoking one or more packs of cigarettes per day	18	68.2	67.2	67.1	68.8	69.5	70.1	71.6	73.6	74.8	76.2	79.8	81.5	80.7	80.5	81.8	81.0	-0.8
	19–22	69.8	72.2	74.3	72.3	70.1	73.1	73.2	73.4	73.4	74.8	81.5	77.2	81.0	80.4	81.8	82.9	+1.2
	23–26	72.2	73.0	71.7	73.9	73.8	72.7	77.3	74.8	75.7	76.2	74.8	74.1	76.2	77.9	77.3	77.9	+0.6
	27–30	73.9	72.7	74.3	71.7	71.0	78.6	75.2	78.8	76.2	77.6	77.3	73.9	81.1	74.5	80.9	79.6	-1.2
Approximate Weighted N =	18	*2,603*	*2,399*	*2,601*	*2,545*	*2,310*	*2,150*	*2,144*	*2,160*	*2,442*	*2,455*	*2,460*	*2,377*	*2,450*	*2,314*	*2,233*	*2,243*	
	19–22	*465*	*480*	*470*	*446*	*449*	*416*	*413*	*402*	*396*	*431*	*378*	*378*	*333*	*365*	*368*	*364*	
	23–26	*466*	*449*	*423*	*401*	*397*	*389*	*404*	*346*	*385*	*403*	*374*	*364*	*325*	*335*	*328*	*347*	
	27–30	*450*	*430*	*453*	*449*	*429*	*395*	*368*	*359*	*346*	*370*	*367*	*330*	*355*	*339*	*325*	*334*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

' — ' indicates data not available.

[a]Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

[b]In 2004 the question text was changed from "barbiturates" to "sedatives/barbiturates" and the list of examples was changed from "downers, goofballs, reds, yellows, etc." to just "downers." These changes likely explain the discontinuity in the 2003 and 2004 results.

Chapter 7

THE SOCIAL CONTEXT

The social contexts in which individuals place and otherwise find themselves can influence their likelihood of using drugs in a number of ways. The environment can provide social modeling of, and social norms regarding, either use or abstention from use. It can also influence the availability of drugs (through friends and friends' contacts) and bring about an awareness of new drugs (knowledge of their existence and potential for altering mood and consciousness). Since its inception, MTF has measured three important features of the social environment: (1) peer groups' norms about drug use, (2) amount of direct exposure to drug use by friends and others, and (3) perceived availability of drugs. All three factors are measured by self-reports and are, therefore, measures of the perceived environment, though evidence suggests that they bear a strong correlation with the actual environment. We believe that these three factors exert important influences on substance use, at both the individual (micro) and the aggregate (macro) level.

In *Volume I*, we examined these factors among secondary school students. In this chapter, we do the same for the young (and sometimes middle) adult population, whose social contexts typically differ considerably from what they were in high school. Most high school graduates today enter college, many get civilian jobs, and some enter military service. These transitions almost always change the institutional environments experienced by young adults (e.g., colleges, work organizations, military services, etc.) and therefore the circles of people to whom they are exposed and with whom they develop friendships. They also alter the potential consequences of drug use if it is discovered by authorities in the relevant institution; for example, consequences can be quite severe for those in military service, and we have shown that illicit drug use drops when young people enter the military.[58]

Each of the question sets discussed here are contained in only one of the six questionnaire forms, so the case counts are lower than those presented in most chapters in this volume. (Also, in comparison to the secondary school samples covered in *Volume I*, follow-up samples are much smaller.) Therefore, the prevalence and trend estimates are more subject to fluctuation.

PEER NORMS AMONG YOUNG ADULTS

Table 7-1 provides current levels and trends in perceived friends' disapproval of drug use as reported by 12th graders, 19- to 22-year-olds, 23- to 26-year-olds, and 27- to 30-year-olds. (These are the same age groupings used in chapter 6.) Trend data are available since 1980, 1984, and 1988, respectively, for these three 4-year age groupings of young adults.

[58]Bachman, J. G., Freedman-Doan, P., O'Malley, P. M., Johnston, L. D., & Segal, D. R. (1999). Changing patterns of drug use among U.S. military recruits before and after enlistment. *American Journal of Public Health, 89,* 672-677.

The results for perceived peer norms are generally quite consistent with those for personal disapproval in the aggregate.[59] Exceptions are trying marijuana once or twice and smoking one or more packs of cigarettes per day, for which friends' attitudes are consistently reported as more disapproving than respondents' own attitudes (especially in the oldest age band), and heavy weekend drinking, for which friends' attitudes are seen as less disapproving than their own. The question set regarding friends' disapproval employs a shorter list of drug-using behaviors but includes the same answer scale, stated in terms of strength of disapproval associated with different use levels of the various drugs, as the questions on the respondent's own attitudes about those behaviors (discussed in chapter 6). While peer disapproval and personal disapproval questions appear on different questionnaire forms and therefore have different sets of respondents, the forms are distributed randomly in senior year and should leave no systematic sample differences.

Current Perceptions of Close Friends' Attitudes

Table 7-1 provides trends for each age band in the proportions of respondents indicating how their close friends would feel about the respondent engaging in various drug-using behaviors. For purposes of simplification, we begin by addressing results across the entire 19- to 30-year age band (tabular data for the entire age band are not presented). Then we distinguish among the three young adult age bands: 19–22, 23–26, and 27–30, along with 18-year-olds. In 2010 questions about friends' disapproval were dropped for all drugs except marijuana, occasions of heavy drinking, and cigarettes. The dropped questions showed a high degree of redundancy with respondents' reports of their own attitudes in the aggregate, and thus were deleted to make room for other items.

- Generally, the peer norms reported by young adults 1 to 12 years past high school have been quite similar to those reported by 12th graders.

- Well over half of young adults (59%) thought their close friends would disapprove of their trying ***marijuana***, while two thirds (66%) thought their close friends would disapprove of occasional use, and about 84% thought close friends would disapprove of regular use. Clearly the norms differ as a function of level of marijuana use but for all levels of use they tend to be restrictive for the majority of young adults.

- For each of the ***illicit drugs other than marijuana***, the great majority of young adults have said that their close friends would disapprove of their even *trying* such drugs once or twice (89% for ***cocaine***, 87% for ***LSD***, and 87% for ***amphetamines*** in 2009—the last year for which results on peer norms for these drugs are available).

- Nearly two thirds (63%) of young adults said their close friends would disapprove if they were ***daily drinkers***, and 9 out of 10 (91%) thought friends would disapprove if they had ***four or five drinks nearly every day***. These data also are for 2009.

[59]The question reads, "How do you think your close friends feel (or would feel) about you… [smoking marijuana once or twice]?" The answer categories are "don't disapprove," "disapprove," and "strongly disapprove." Percentages discussed are for the last two categories combined.

- Friends' disapproval of ***heavy drinking on weekends*** is distinctly lower. In 2010 only 48–53% of any of the young adult age groups thought that their close friends would disapprove of their having five or more drinks once or twice each weekend. These levels of disapproval are lower than among 18-year-olds (62%).

- Peer disapproval of ***cigarette*** smoking is high in all four age bands: in 2010, 81% of 12th graders said their friends would disapprove of pack-a-day smoking, as did 86–89% of 19- to 30-year-olds.

Trends in Peer Norms

Important changes in the social acceptability of drug-using behaviors among both 12th graders' and young adults' peers have occurred since MTF began (see Table 7-1).

- Among 12th graders, the proportion saying their close friends would disapprove of their trying ***marijuana*** rose from 41% in 1979 to 73% in 1992—a period of substantial decline in use. Friends' disapproval also grew substantially stronger in all of the young adult age bands in the years for which data are available. For example, among 19- to 22-year-olds, the proportion thinking their close friends would disapprove if they even tried marijuana rose from 41% in 1981 to 65% in 1992. A similar peak in disapproval occurred for 23- to 26-year-olds in 1992 and 1993, and among 27- to 30-year-olds in 1994 and 1995—66% for both age bands. In all age groups, disapproval subsequently declined, though the declines in peer disapproval were earliest and greatest among 12th graders. The decline ended in 1997 for 12th graders and began to reverse, but continued through 2002 among 19- to 26-year-olds. There has been little systematic change in the past several years, at least until 2010, when friends' disapproval declined significantly for all three levels of marijuana use.

  Close friends' disapproval of more frequent marijuana use also rose until the early 1990s among 18-year-olds, and then declined between 1992 and 1997. It declined through 1999 among 19- to 22-year-olds and continued to decline among 23- to 30-year-olds through 2003. In essence, peer norms have moved in a way consistent with the existence of some lasting cohort differences in these norms, as well as in use. A recent, more formal analysis of age, period, and cohort effects in disapproval came to the same conclusion.[60]

- There was a more gradual increase in peer disapproval of trying an ***amphetamine*** for all age groups through 1991, followed by a small decline evident among 12th graders through 1997. Since 1997, levels of disapproval among 18- to 30-year-olds have increased to some extent, though not dramatically. In 2009, disapproval levels ranged from 86% to 87%.

- Through 1991, peer disapproval of trying ***LSD*** showed very little change in any of the age bands, but it fell some in the 1990s, especially among 18-year-olds and subsequently among 19- to 22-year-olds. These declines bottomed out in a staggered fashion,

[60]Keyes, K. M., Schulenberg, J. E., O'Malley, P. M., Johnston, L. D., Bachman, J. G., Li, G., & Hasin, D. (in press). The social norms of birth cohorts and adolescent marijuana use in the United States, 1976-2007. *Addiction*.

beginning with the 12th graders in 1997, which have since shown a seven-percentage-point increase in peer disapproval. There has been a five-percentage-point increase among 19- to 22-year-olds (since 2000), and a three-percentage-point increase among 23- to 26-year-olds (since 2001)—again suggestive of a cohort effect in these norms. By 2009 there was almost no difference among the age groups, with 85–88% of respondents saying their friends would disapprove of their trying LSD.

- Perceived peer norms regarding ***cocaine*** use were first measured in 1986. During the next eight years, self-reported cocaine use declined substantially as peer norms in all age bands shifted toward disapproval. For example, by 1994, 95% of the 19- to 22-year-olds thought their close friends would disapprove of their trying cocaine once or twice. After 1994, peer norms against use continued to strengthen a bit in the upper age bands, perhaps through generational replacement, but weakened slightly in the younger age bands, likely reflecting a new cohort effect. In recent years there has been little difference by age in peer norms against cocaine use, with 85–91% in 2009 saying their friends would disapprove of their trying it. By way of contrast, in 1986 that statistic ranged between 71% and 80% among 18- to 26-year-olds.

- Peer norms regarding ***occasions of heavy drinking*** on weekends (five or more drinks once or twice each weekend) among the three young adult age groups have tended to be weakest for the 19- to 22-year-old age stratum, where such behavior is most common, and strongest for the 27- to 30-year-old stratum. Since 2002, disapproval of such drinking has also been low for the 23- to 26-year-old stratum relative to the other two age bands. Among 12th graders, friends' attitudes became somewhat more restrictive between 1981 and 1992 (and respondents' own occasions of heavy drinking declined during that interval), but attitudes have been fairly level since then. There was a similar upward trend in peer disapproval among the various young adult age bands that followed a staggered pattern, again likely reflecting a cohort effect in these norms. However, between 1997 and 2000 the 19- to 22-year-old age group themselves became somewhat less disapproving of occasions of heavy drinking on weekends; this was followed by a decline in perceived peer disapproval between 2001 and 2004 among 23- to 26-year-olds, and a decline from 2004 and 2009 among 27- to 30-year-olds. Despite some increases in peer disapproval over the years, this rather extreme form of drinking has the *least* restrictive perceived peer norms of all of the substance-using behaviors measured in MTF.

- Peer norms regarding ***cigarette smoking*** one or more packs per day have strengthened in staggered fashion among the young adult age groups in recent years. Between 1998 and 2008, the proportion saying that their close friends would disapprove of their smoking a pack or more of cigarettes per day rose from 69% to 83% among 18-year-olds and from 69% to 86% among 19- to 22-year-olds. The two older strata did not see a comparable change until 2006, when among 23- to 26-year-olds peer disapproval rose from 77% in 2005 to 88% in 2009, before leveling. The change did not manifest itself among the 27- to 30-year-olds until 2010; their rates of peer disapproval of smoking, which have consistently been the highest among the four age groups, stayed fairly level after 2000, until there was a 4.4-percentage-point jump in 2010. This pattern again suggests some cohort effects in peer norms working their way up the age spectrum. In 2010, the

proportions across the age bands reporting that their friends would disapprove of pack-a-day smoking ranged from 81% among 18-year-olds to 90% among those 27–30 years old.

In the early years of MTF, peer disapproval of smoking a pack or more of cigarettes per day rose among 12th graders from 64% (1975) to 73% (1979). There was little further net change for 13 years through 1992, when friends' disapproval stood at 76%. Between 1992/1993 and 1997/1998, all age groups showed a decrease in perceived peer disapproval of smoking—this time consistent with a secular trend.

ADULTS' EXPOSURE TO DRUG USE THROUGH FRIENDS AND OTHERS

Exposure to drug use is important because it provides both the modeling of the behavior by peers (possibly including direct encouragement to use) and immediate access. Exposure is measured by two sets of questions, each appearing on a (different) single questionnaire form. The first set asks the respondent to estimate what proportion of his or her friends use each drug, while the second asks, "During the LAST TWELVE MONTHS how often were you around people who were using each of the following to get high or for 'kicks'?" The same questions are asked of 12th graders, and their results are included here for comparison purposes in Tables 7-2 and 7-3. (Questions about direct exposure to drug use were not included in the questionnaires for 35- to 50-year-olds.) We continue to deal with four-year age bands for the friends' use measures in order to increase the reliability of the estimates. Ages 35, 40, 45, and 50 are included as one-year age bands, with both half samples from each of those cohorts being surveyed; those years have larger numbers of cases than single years at the earlier ages because only one sixth of those younger ages complete the relevant questionnaire form instead of all respondents in a cohort at later ages, starting with age 35. At the end of each table is a summary of the weighted number of cases upon which each annual estimate is based. (The actual numbers of cases are somewhat higher.)

Exposure to Drug Use

- Relatively high proportions of young adults in all of these age bands have at least *some* friends who use ***some illicit drug*** (Table 7-2). In 2010, illicit drug use by at least some friends is reported by 80% of 12th graders, 67% of 27- to 30-year-olds, 45% of 35-year-olds, 38% of 45-year-olds, and 37% of 50-year-olds. The proportions who say that *most or all* of their friends use one or more of the illicit drugs are much lower: 25% for 12th graders, falling to 17% of 19- to 22-year-olds, 14% of 23- to 26-year-olds, 7% of 27- to 30-year-olds, and between 1.4% and 3.7% for the 35-, 40-, 45-, and 50-year-olds—quite a dramatic difference across ages, and one that is consistent with the large differences in their own self-reported current use.

- With regard to ***illicit drugs other than marijuana***, taken as a whole, considerably fewer report that *any* of their friends use compared to what is true for marijuana use (see below): 54% for 12th graders, 52% for both 19- to 22-year-olds and 23- to 26-year-olds, 40% for 27- to 30-year-olds, and 19–24% for 35- to 50-year-olds. The proportions saying that *most or all* of their friends use ***illicit drugs other than marijuana*** in 2010 are 7%, 5%, 3%, and 1.5%, respectively, for the four youngest age bands, with 1% or fewer of

respondents over the age of 30 reporting such high proportions of their friends using other illicit drugs. Thus, relatively few in these age groups appear to be deeply immersed in a drug culture involving illicit drugs beyond marijuana.

- With respect to individual illicit drugs, exposure among all of the age groups is greatest for ***marijuana***, with over 70% of 12th graders and 19- to 26-year-olds, 62% of 27- to 30-year-olds, and 28–41% of 35- through 50-year-olds reporting that at least some of their friends use the drug. The next highest exposures are for ***narcotics other than heroin*** (36% among 12th graders, 31% among 19- to 22-year-olds, 37% among 23- to 26-year-olds, and 28% among 27- to 30-year-olds), then ***hallucinogens other than LSD*** (32% among 12th graders, 26% among 19- to 22-year-olds, 23% among 23- to 26-year-olds, and 15% among 27- to 30-year-olds), followed by ***cocaine***, ***amphetamines***, and ***ecstasy*** (***MDMA***). Because of the dramatic increase in its use during the 1990s and early 2000s, ecstasy surpassed a number of the more traditional drugs, though its use declined sharply in subsequent years. (It should be noted that use of several illicit drugs was not asked of the age groups above 30 due to space limitations in the single questionnaire form used at each of those ages. See Table 7-2.)

  For the remaining illicit drugs, the proportion of young adults reporting that some friends use a given drug is 10% or higher in at least one of the young adult age groups for the following drugs: ***sedatives*** (***barbiturates***) (15–19%), ***steroids*** (9–14%), ***tranquilizers*** (10–13%), and ***LSD*** (8–16%). See Table 7-2 for specifics.

- For most illicit drugs, the proportion of young adults having any friends who use them decreases with age, consistent with the age differentials in self-reported use. The steepest declines occur with ***inhalants*** (19% of 18-year-olds down to 1.7% of 27- to 30-year-olds in 2010). (Inhalant use is not asked of the age groups above 30, precisely because of this sharp decline in use with age.) As reported in *Volume I*, the decline with age in inhalant use is actually well under way by 10th grade.

- For some years, ***cocaine*** showed significantly higher rates of active use among adults compared to 12th graders. That is no longer true, although there is rather little drop-off with age in early adulthood; consequently, there is not a great difference associated with age in having friends who use cocaine (19–28% for all four of the younger age groups). The 35-, 40-, 45-, and 50-year-olds are asked separately about cocaine powder and crack use; far fewer, but still a fair proportion, report having friends who use cocaine powder—10% for age 35 and 5% to 6% in 2010 for the three older groups.

- For ***crack***, however, the story is different. Reported friends' use of crack now descends sharply with age, although this was not true in the mid-1980s, when measures of crack use were first included in the surveys. In 2010, 15% of 12th graders report having any friends using crack, versus 7% of 19- to 22-year-olds, 4% of 27- to 30-year-olds, and 1% to 3% of 35- to 50-year-olds.

- The proportion reporting in 2010 that they have any friends who use ***heroin*** also decreases sharply with age, from 12% among 12th graders to 3% among 27- to 30-year-olds. (Older respondents are not asked this question.)

- In 2010, ***narcotics other than heroin*** showed a less sharp decline with age, from 36% among 18-year-olds, to 31% and 28% among 19- to 22-year-olds and 27- to 30-year-olds, respectively. It should be noted that the examples used in the question were revised in 2010 to include Vicodin, OxyContin, and Percocet, while methadone and opium were eliminated as examples. The net effect was a considerable increase in reported levels as may be seen in Table 7-2. (Older respondents are not asked this question about friends' use.)

- In general, it appears that some respondents who report that their friends use ***illicit drugs*** are themselves not directly exposed to that use by their friends, judging by the differences in proportions saying they have some friends who use (Table 7-2) and the proportions who say they have been around people who were using during the prior year (Table 7-3).

- With respect to ***alcohol*** use, the great majority of young adults have at least *some* friends who ***get drunk at least once a week***, although this peaks in the early 20s and then drops off gradually with age: 73% of 12th graders, 81% of 19- to 22-year-olds , 84% of 23- to 26-year-olds, 78% of 27- to 30-year-olds, 59% of 35-year-olds, 50% of 40-year-olds, 49% of 45-year-olds, and 40% of 50-year-olds. Given the potential serious consequences of this behavior, these rates are impressively high across a wide age range. The proportions who say *most or all* of their friends get drunk once a week differ more substantially by age: 24% of 12th graders and 28% of 19- to 22-year-olds, declining sharply to 14% of 27- to 30-year-olds and 2% of 50-year-olds. Note in particular how high these rates are among the high school and college-age populations. In terms of having any direct exposure during the past year to people who were drinking alcohol "to get high or for 'kicks," having some such exposure is almost universal in the three 4-year age groups of young adults: 87%, 91%, and 91%, respectively (see Table 7-3).

- From ages 18 through 30, about four fifths of respondents (78–88%) have at least a few friends who ***smoke cigarettes***, with considerable falloff by age 35. In fact, 15–17% of the 12th graders and 19- to 22-year-olds state that *most or all* of their friends smoke. Above those ages, the proportions decline to 8% of 27- to 30-year-olds and 4–7% for those 35 years of age and older. This increase in the segregation of smokers from nonsmokers likely reflects the stratification of young people after high school as a function of educational attainment, which is highly correlated with cigarette smoking. Also, it can be seen in Table 7-2 that there was much less age-related difference in the late 1980s, suggesting that the sharp rise in smoking among high school students during much of the 1990s, followed by a sharp decline in the years since, accentuated the age differentials, and that those differentials remain, reflecting lasting cohort effects.

Trends in Exposure to Drug Use

Tables 7-2 and 7-3 also provide *trend* data on the proportions of respondents' friends using drugs and the proportion of respondents directly exposed to drug use by others. Both of these measures

of exposure to use will be discussed in this section. Once again, trends are available for 19- to 22-year-olds since 1980, for 23- to 26-year-olds since 1984, and for 27- to 30-year-olds since 1988. Data for 35-, 40-, 45-, and 50-year-olds are available on friends' use since 1994, 1998, 2003, and 2008, respectively. (Questions about frequency of being around drug users were not included in the questionnaires administered to respondents age 35 and older, so those age bands are not included in Table 7-3. However, they were asked about the proportions of their friends using.) Twelfth-grade data have also been included in these tables for comparison purposes.

- An examination of Table 7-3 shows that exposure to illicit drug use (in the 12 months preceding the survey) declines with age for ***any illicit drug***, ***marijuana***, and ***any illicit drug other than marijuana***, as well as for nearly all of the specific illicit drugs. In general, these differences replicate across different historical periods, with the exception of ***cocaine***, which did not show a decline in exposure with increasing age until after 1996. These declines reflect age effects (changes with age observed across multiple cohorts) in both exposure to use and in personal use of most drugs.

- Until 1992, young adults' trends in exposure to use tended to parallel those observed for 12th graders. From 1980 to 1992, that meant a decreasing number of respondents were exposed to ***any illicit drug*** use (Table 7-3) or reported any such use in their own friendship circle (Table 7-2). After 1992, however, an important *divergence* in trends emerged: 12th graders showed a substantial increase in both friends' use and exposure to use (as well as self-reported use); 19- to 22-year-olds showed a similar rise, but lagged by a few years; 23- to 26-year-olds subsequently showed some rise; while the 27- to 30-year-old age band did not show a rise until 2002. As discussed in earlier chapters, this pattern no doubt reflects the emergence of lasting cohort differences that emerged in secondary school and, driven by generational replacement, continued up the age spectrum as the secondary school students grew older.

- ***Marijuana*** showed a very similar pattern of change. It is particularly noteworthy that, while 34% of 19- to 22-year-olds in 1980 said *most or all* of their friends used marijuana, only 8% said the same in 1991. Clearly, the number of friendship groupings in which marijuana use was widespread dropped dramatically over that earlier interval. This measure of friends' use more than doubled to 19% by 1999 during the relapse phase in the larger epidemic, where it remained for a couple of years before falling to 12% by 2008 and then increasing again to 15% by 2009 where it remained in 2010. Self-reported use (Figure 5-3a) and friends' use both increased significantly among 18-year-olds in 2008, which we interpreted as a turnaround in the marijuana situation. Since 2006, the other adult age strata also have shown some increase in the proportion reporting some friends using marijuana, but the trends are not very consistent (Table 7-2).

- The proportion of respondents reporting having any friends who use ***any illicit drugs other than marijuana*** began to decline after 1982. By 1991/1992 there had been a considerable drop in all four age groups. This drop appears to be due particularly to decreases in friends' use of ***cocaine*** and ***amphetamines***, although there were decreases for ***sedatives*** (***barbiturates***) and ***tranquilizers*** as well. The levels then began to rise in the two youngest age bands in the early 1990s, while at the same time declining further in the

two oldest age bands, opening up a large age-related difference in friends' use. The 23- to 26-year-olds showed a later increase in friends' use and the 27- to 30-year-olds showed a still later increase. Since 2001 there has been some decline in reported friends' use in the two youngest age strata. The net effect was to narrow the age differences among the young adult strata considerably. Since about 2008 there has been a significant increase in all four age bands in the proportion saying that they have any friends who use some illicit drug other than marijuana. However, reported friends use among those age 35 and over has changed rather little.

- Between 1987 and about 1992, all four age groups showed a considerable drop in the proportion of respondents with friends who used ***crack***. (Self-reported use declined sharply in the same period.) After that decline, the rates of friends' use increased some in the two youngest age bands and decreased some in the four oldest ones, resulting in a large age differential that is still evident. In 2010 the rate for 18-year-olds was at least double the rate for any of the other age groups.

- There were substantial increases between the early 1990s and about 2000 in the proportion of 18- and 19- to 22-year-olds reporting that they have friends using ***narcotics other than heroin***, and smaller increases among 23- to 30-year-olds, resulting in some considerable age-related differences. By 2009, the 18- and 19- to 22-year-olds had declined some, while the 23- to 30-year-olds had increased some in a classic cohort-effect pattern of change, thus narrowing the age differences by 2009. In addition, the question wording change in 2010 described above led to a sharp increase for all age groups.

- The proportions saying that any of their friends use ***ecstasy*** (***MDMA***) increased sharply in all age groups between 1992 and 2002, though in a staggered fashion. Twelfth graders showed the first sharp increase beginning after 1992, 19- to 22-year-olds after 1994, 23- to 26-year-olds after 1996 and 27- to 30-year-olds after 1997. These sharp increases ended among 12th graders in 2001 and among 19- to 30-year-olds a year later. Since those peak levels, the proportions saying that they had any friends using ecstasy have generally declined, corresponding with a decline in self-reported use. In all four age groups, 13–26% now report that any of their friends use ecstasy. The staggered nature of the increases suggests a cohort effect at work, but the simultaneous decline strongly suggests a secular trend, likely due to the heavy media coverage of adverse consequences associated with ecstasy use.

- For all four age groups, the proportions saying that most or all of their friends drink ***alcohol*** declined modestly between 1987 and 1992. The next decade saw little change in the four youngest age bands, until 2002, when friends' use fell among 12th graders while continuing to climb in the other age bands. Over the past few years there has been little consistent change among those ages 19–30. In the years for which data are available, the older three age bands have shown some very modest increase in the proportions saying that most or all of their friends drink alcohol. The age groups above age 30 have consistently been much less likely to report that any of their friends ***get drunk*** at least once a week, compared with those ages 18 to 26. These proportions have increased starting at different times: since 1998 among 35-year-olds, since 2004 among 40-year-

olds, and since 2005 among 45-year-olds, suggesting somewhat stable cohort differences. The net effect has been to reduce the differences separating those in their 20s from those in later decades in terms of the proportion having any friends who get drunk at least once a week. The rates in 2010 for the four youngest age strata are very high—between 74% and 84%.

- Among 12th graders, the proportion who said *most or all of their friends smoked **cigarettes*** declined appreciably between 1975 and 1981, the same period in which self-reported use declined. After that, neither measure showed much change until about 1992. Thereafter, substantial increases in both measures occurred. By 1997, fully one third (34%) of 12th graders reported that most or all of their friends smoked cigarettes (up from 21% in 1992); since then, that statistic declined (to 14% in 2008, and up to 15% in 2010) along with self-reported use. Among 19- to 22-year-olds, a decline in friends' use occurred between 1980 (or possibly earlier) and 1985, followed by a leveling through 1994. The percentage saying most or all of their friends smoke increased from 22% in 1994 to 29% in 2000, before beginning to decline, reaching 17% in 2010. Among 23- to 26-year-olds, a downturn was evident between at least 1984 (the first year for which data are available) and 1988, and then reported friends' use leveled. After 2002, some slight increases occurred, but then a reversal occurred from 2004 to 2009. These staggered changes, until about 1998, illustrate that cohort effects were moving up the age spectrum. Since 1998 (or the earliest year available for the age bands above age 30), the proportion saying that any of their friends smoked cigarettes showed some decline among those above age 30, but little or no change among 23- to 30-year-olds (which contains some of the heavier smoking senior classes of the mid-1990s) until about 2006. Many of the age strata showed some modest increase since 2008, but the 19- to 22-year-olds showed a significant decline in 2010.

Nearly all of these changes in exposure to drug use parallel changes in self-reported use by these age groups. This pattern reinforces the validity of self-report data, because there would presumably be less motivation to distort answers about the proportion of an unnamed set of friends who use a drug than about one's own use. The systematic nature of the patterns of change across age strata (whether in terms of parallel changes consistent with a secular trend, or systematically staggered ones consistent with a cohort-related trend) is also supportive of the data validity.

PERCEIVED AVAILABILITY OF DRUGS AMONG ADULTS

Adults participating in the follow-up surveys receive questions identical to those asked of 12th graders regarding how difficult they think it would be to get each of the various drugs if they wanted them. The questions are contained in only one of the six questionnaire forms used prior to age 35. Data for the young adult follow-up samples, which are grouped into the same four-year age bands used above, are presented in Table 7-4, along with data for 12th graders and 35-, 40-, 45-, and 50-year-olds. Sample sizes are presented at the bottom of the table. The availability question is not asked for all drugs in the adult samples, as may be seen in Table 7-4.

Perceived Availability

Much like 12th graders, substantial proportions of the American adult population have access to various illicit drugs. (We do not ask about access to alcohol and cigarettes because we assume these are readily available to all adults.)

- ***Marijuana*** is the most available illicit drug in 2010, with 83–85% of the young adult age strata saying it would be "fairly easy" or "very easy" to get. Access decreases steadily with age after age 30; but even at age 50, more than two-thirds of respondents (68%) say they can get it fairly easily or very easily.

- Though less available than marijuana, ***amphetamines*** are fairly available, with 44–46% of young adults and 34–40% of 35-, 40-, 45-, and 50-year-olds saying they would be easy to get.

- ***Cocaine*** is reported as readily available in 2010 by a significant proportion of young adults, with 37–41% saying it would be easy to get. Availability of ***powdered cocaine*** does not differ much by age (36–40%) until after age 30, when it is somewhat lower. ***Crack*** is available to smaller proportions than powdered cocaine; but still, some 27% for all three post–high school young adult age strata and 30–36% for 35-, 40-, 45-, and 50-year-olds think they could get crack if they wanted some. (Respondents above age 35 are not asked about the availability of powder cocaine or crack.)

- More than half of all young adults (55–62%) in 2010 said say that they could get ***narcotics other than heroin*** easily, as do 54% of 12th graders.

- ***Sedatives*** (***barbiturates***) are a bit less available than amphetamines to these age groups, with little variation across age up to age 30 (40–43%).

- ***Tranquilizers*** are reported as available in 2010 by considerably fewer respondents (20–31%), which historically was not always the case. None of these three classes of drugs—narcotics, sedatives, or tranquilizers—are included in follow-up surveys of respondents over age 30.

- About one quarter (22–25%) of young adults and 12th graders say that they could get ***heroin*** fairly or very easily, though far fewer report having used heroin. (The question is not asked of respondents above age 30.)

- ***Ecstasy*** (***MDMA***) is seen as readily available to 30–36% of young adults and 12th graders in 2010. (The question is not asked of respondents above age 30.)

- ***Hallucinogens other than LSD*** are reported as available by 40% of 12th graders and 32–39% of the three young adult strata. (The question is not asked of respondents above age 30.)

- ***LSD*** is the least available drug, declining from 25% among 12th graders to 19% among 50-year-olds.

- ***Crystal methamphetamine*** (***ice***) is perceived to be available by between a fifth and about a quarter of each young adult age group (19–28%) in 2010. (The question is not asked of respondents above age 30.)

- ***Steroids*** are seen as available to about equal proportions of high school seniors through 27- to 30-year-olds (between 22% and 28%).

Trends in Perceived Availability

- ***Marijuana*** has been almost universally available to the adolescent and young adult age groups throughout the historical periods covered by the data. Since the late 1990s, the trends in availability across the age bands have generally been quite parallel, suggesting secular trends in prevailing conditions that affect availability. From the peak year in 1979, perceived availability decreased slightly through 1991 among 12th graders and decreased slightly more from 1980 through 1991 among 19- to 22-year-olds. Availability rose by a few percentage points in nearly all strata between about 1993 and 2001, and since then has slipped back a few percentage points in the four youngest strata. Perceived availability is now somewhat higher for the younger age groups (82–85% for 12th graders through 27- to 30-year-olds versus 68–76% for those ages 35 to 50).

- In the last decade, ***cocaine*** availability has remained low relative to earlier data collections and has shown little systematic change, with some decline in all four age strata since 2007. Historic highs in perceived availability occurred in the 1980s, with increases among all three younger age strata from 1984 to 1988, reaching the highest proportions measured in 1988 and 1989. (Twelfth graders showed a rise in availability in earlier years—from 1975 to 1980—followed by a leveling between 1980 and 1984. Availability was also level during the latter period among 19- to 22-year-olds.) From a policy perspective, it is worth noting that in all three age bands for which we have data, the perceived availability of cocaine *increased* in 1987—the same year that use actually dropped sharply. Between 1988 and 1989, in the two younger age strata (ages 18–22), the proportions reporting that they could get cocaine fairly easily were still increasing, whereas in the older age strata the proportions were beginning to decrease. In 1990 and 1991, all four groups reported decreased availability—quite parallel to the number who had friends who were users and to personal use, both of which dropped substantially in these years and then leveled in 1992. Perceived availability of cocaine dropped to between 49% and 57% for all four age groups by 1993, with the absolute declines ranging from four to seven percentage points. Until about 2000, there was some falloff in perceived availability in all age strata through age 30—particularly among those ages 23 through 30—and an increasing convergence.

- ***Crack*** availability peaked in 1988–1989 for all age groups (it was first assessed in 1987) and declined through 1992, with little further change until 1995. Since 1995, crack

availability has declined some in all of the lower five age strata. Data on 40- and 45-year-olds is available for a shorter interval, but also shows gradual declines from peak levels.

- In 2010, between 19% and 26% of each age group said they could get ***LSD*** fairly easily, which contrasts quite dramatically with the mid-1990s, when over 50% of those in the younger age strata said they could get it. Across the decades measured, the trends in ***LSD*** availability among young adults have had some parallels to those among 12th graders. For 12th graders, there was a drop of about 10 percentage points in the mid-1970s, and a later drop from 1980 to 1986. The latter drop, at least, was paralleled in the data from 19- to 22-year-olds. After 1986, LSD availability increased considerably in all age bands, reaching its peak levels by 1995. At this time a considerable age-related difference developed, with availability lower in the older age groups. Since 1995, availability has fallen substantially in all age bands (with the exception of the 45- and 50-year olds, for whom there is limited trend data available), but particularly in the youngest two age strata, narrowing the differences among the age groups. Indeed, the drop-off in availability of LSD to 12th graders and 19- to 22-year-olds was quite sharp in 2002, possibly contributing to the steep decline in use that year. Availability among 50-year-olds is the lowest.

- Since 2001 the general pattern regarding the availability of ***hallucinogens other than LSD*** has been one of stability. Levels of availability have been more differentiated by age than in prior decades, though these differences have diminished in recent years. (This question is not asked of respondents over age 30.) Generally, the lower the age stratum, the higher the reported availability. In the early 1980s, there was a fair decline among all age groups in the availability of hallucinogens other than LSD; there was little additional change through 1992. From 1992 to 1995, the three youngest age groups all showed an increase in availability, with 12th graders showing the largest increase. From 1996 to 2000, availability was fairly steady. All age groups showed substantial increases in 2001, undoubtedly due to the changed question wording which added "shrooms," among other substances to the examples of hallucinogens. It appears that the inclusion of "shrooms," or psilocybin mushrooms, introduced a greater variability with age in the availability of hallucinogens other than LSD taken as a class.

- The availability of ***ecstasy*** (***MDMA***) has shown considerable declines among the three youngest strata since 2002. Reported availability of ecstasy varied little by age in 2010, ranging between 30% and 36% among all four age strata covered. Ecstasy (MDMA) questions were first introduced in 1989 and 1990 (and are not asked of those over age 30). Availability rose very substantially in all of these age groups during the 1990s and early 2000s. Among 12th graders, reported availability nearly tripled, from 22% in 1989 to 62% in 2001—the peak year for 12th graders. All four age groupings showed sharp increases in 2000 and 2001, with the older age groups continuing to increase through 2002—their peak year.

- All age groups have shown some gradual, modest decline in ***heroin*** availability since 1997 or 1998, during which interval there has been rather little variability in heroin availability across the 18-to-30 age range. (The question is not asked of respondents over

age 30.) Heroin availability varied within a fairly narrow range from 1980 to 1986, but then showed a fair-sized increase among both 12th graders and young adults through 1990. It then rose further among 12th graders and 19- to 22-year-olds through 1995 before declining a bit. In the older two age groups, heroin availability remained fairly flat from 1990 to 1995, increased some through 1999, and declined thereafter. It is clear that heroin was much more available to all of these age groups in the 1990s than it was in the 1980s. This increase in the availability—and purity—of heroin most likely led to the emergence of noninjection forms of heroin administration during this period.

- The availability of ***narcotics other than heroin*** rose slowly among all age groups from 1980 until recent years, with the exception of a period of considerable stability from 1989 through 1994. (Respondents over age 30 are not asked this question.) After 1994, the modest increase in availability was accompanied by steadily rising use. Recent years showed a very slight falloff in availability among all age strata except the 27- to 30-year-olds, who continued to show an increase. Note, however, that reported availability jumped in 2010, when new drugs, including Vicodin and OxyContin, were added to the list of examples in the question. For the most part, there has not been a consistent difference by age in the availability of narcotics other than heroin among those ages 18 to 30; the predominant trend has been one of increasing availability over a long period of time in the 23- to 30-year-old segment. The addition of newer drugs, like OxyContin and Vicodin, to the list of examples resulted in some further increase, which suggests that availability climbed considerably more over the past decade or so than the data based on the original question suggested.

- In general, the age groups above age 30 have reported somewhat lower availability of ***amphetamines*** than the younger strata, but not dramatically lower. These differential rates of reported availability across the age groups emerged after 1992, when prevalence of use began to rise among 12th graders. In 1982, availability peaked for both 12th graders and 19- to 22-year-olds, after which it fell until 1991, by 14 percentage points among 12th graders and 15 percentage points among 19- to 22-year-olds. Among 23- to 26-year-olds, there was a decline of 14 percentage points between 1984 (when data were first available) and 2005. For 27- to 30-year-olds, reported availability decreased by nine percentage points between 1988 (the first measurement point) and 2005. There were decreases among 35-year-olds as well for awhile in the 2000s, but some reversal in more recent years.

- By way of contrast, ***crystal methamphetamine*** or "***ice***" exhibited an increase in availability in the 1990s, rising for all four age strata from 1991 to 1998/1999, before stabilizing with similar rates of availability from ages 18 to 30. (This question was not asked of those over 30.) All four strata have shown some decline in recent years, starting with the youngest three age strata after 2006 and the 27- to 30-year-olds after 2008. Availability is now lowest for the youngest age bands—a reversal of the situation in the early 1990s.

- ***Sedatives*** (***barbiturates***) exhibited a long-term decline in availability over more than two decades, from about 1981 or 1982 through 2003 in the two younger groups—a 20-

percentage-point drop among 12th graders and a 23-percentage-point drop among 19- to 22-year-olds. All groups showed an increase in 2004—no doubt due primarily to a change in the question wording—and little further systematic change since, except for a gradual decline among 12th graders.

- ***Tranquilizer*** availability has declined long term by three fourths among 12th graders, from 72% in 1975 to 18% in 2010. Since 1980, when data were first collected for 19- to 22-year-olds, tranquilizer availability declined by more than two thirds (from 67% in 1980 to 20% in 2010), such that previous differences in availability between these two groups were eliminated by 1992. The older age groups also showed a considerable decline in the availability of tranquilizers through 2010; but they have generally had a higher level of availability for tranquilizer than the younger two age bands. For the most part, trend lines for the different age groups have been quite parallel, as was true for sedatives (barbiturates). Indeed, this class of drugs has shown the most consistent pattern of change in perceived availability since MTF began.

- Data on ***steroid*** availability were first gathered in 1990. There has been some decline in availability in all age groups since about 2000, including a sharper rate of decline in the youngest three age strata since 2007. (This question was not asked of those over 30.) While younger respondents used to report higher levels of availability than those in the older strata, there is now very little difference among them (from 22% to 28% in 2010). In fact, availability is now at the lowest point since data were first gathered on this topic in 1990 for all four age strata.

TABLE 7-1
Trends in Proportions of Respondents Reporting Their Close Friends Disapproving of Drug Use among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Percentage saying friends disapprove[a]

Q. How do you think your close friends feel (or would feel) about you. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Trying marijuana once or twice	18	42.6	46.4	50.3	52.0	54.1	54.7	56.7	58.0	62.9	63.7	70.3	69.7	73.1	66.6	62.7	58.1	55.8
	19–22	41.0	40.6	46.9	47.1	51.6	54.5	55.2	54.7	58.7	63.0	63.6	64.7	64.7	63.4	63.7	58.5	64.3
	23–26	—	—	—	—	47.7	47.0	49.1	53.9	58.2	62.6	61.3	64.5	65.6	65.5	63.2	63.8	61.2
	27–30	—	—	—	—	—	—	—	—	58.6	58.7	61.4	64.6	63.5	64.4	66.3	66.1	65.8
Smoking marijuana occasionally	18	50.6	55.9	57.4	59.9	62.9	64.2	64.4	67.0	72.1	71.1	76.4	75.8	79.2	73.8	69.1	65.4	63.1
	19–22	50.9	49.2	54.0	57.9	59.4	64.6	64.4	65.1	69.8	71.5	74.1	73.9	74.3	73.1	73.0	66.6	71.3
	23–26	—	—	—	—	54.3	56.4	57.1	63.1	68.1	73.2	71.8	72.5	75.3	73.5	72.2	70.7	70.8
	27–30	—	—	—	—	—	—	—	—	67.8	69.4	71.9	73.7	76.0	75.1	76.4	73.8	75.6
Smoking marijuana regularly	18	72.0	75.0	74.7	77.6	79.2	81.0	82.3	82.9	85.5	84.9	86.7	85.9	88.0	83.5	80.6	78.9	76.1
	19–22	70.3	75.2	75.7	79.5	80.0	82.7	83.5	84.8	86.9	87.5	89.1	88.4	89.1	87.6	85.9	83.9	84.5
	23–26	—	—	—	—	77.8	78.4	80.9	82.0	85.8	89.2	88.1	87.9	90.3	89.1	88.8	84.9	89.5
	27–30	—	—	—	—	—	—	—	—	85.4	86.0	88.4	89.2	88.7	88.2	88.9	89.7	89.6
Trying LSD once or twice	18	87.4	86.5	87.8	87.8	87.6	88.6	89.0	87.9	89.5	88.4	87.9	87.9	87.3	83.5	83.4	82.6	80.8
	19–22	87.4	90.5	88.0	89.3	89.3	91.1	90.5	91.8	90.8	91.2	89.1	89.9	87.2	87.7	87.9	84.6	85.3
	23–26	—	—	—	—	87.4	90.8	88.6	89.8	88.9	91.0	90.1	92.4	88.9	87.7	86.3	85.3	88.5
	27–30	—	—	—	—	—	—	—	—	88.8	89.7	92.3	91.1	91.4	89.9	91.2	89.7	89.3
Trying cocaine once or twice	18	—	—	—	—	—	—	79.6	83.9	88.1	88.9	90.5	91.8	92.2	91.1	91.4	91.1	89.2
	19–22	—	—	—	—	—	—	76.4	—	84.8	87.7	89.2	92.3	91.9	92.4	94.7	91.7	91.5
	23–26	—	—	—	—	—	—	70.8	—	81.4	84.5	84.1	86.7	87.4	87.7	87.9	90.4	90.0
	27–30	—	—	—	—	—	—	—	—	81.8	81.1	83.7	83.5	84.4	86.1	87.8	87.5	88.7
Taking cocaine occasionally	18	—	—	—	—	—	—	87.3	89.7	92.1	92.1	94.2	94.7	94.4	93.7	93.9	93.8	92.5
	19–22	—	—	—	—	—	—	84.9	—	91.0	93.8	94.2	95.6	95.9	95.6	97.5	95.6	95.7
	23–26	—	—	—	—	—	—	81.7	—	88.2	91.5	92.4	94.1	93.8	93.5	94.3	94.6	95.4
	27–30	—	—	—	—	—	—	—	—	87.7	89.5	90.0	92.2	92.3	92.8	94.6	94.1	94.6
Trying an amphetamine once or twice	18	78.9	74.4	75.7	76.8	77.0	77.0	79.4	80.0	82.3	84.1	84.2	85.3	85.7	83.2	84.5	81.9	80.6
	19–22	75.8	76.7	75.3	74.3	77.0	79.7	81.5	81.3	83.0	83.5	84.5	86.5	83.8	85.0	87.2	83.1	86.0
	23–26	—	—	—	—	78.4	79.1	76.7	81.7	83.0	85.6	84.3	85.0	83.6	84.2	84.7	87.6	86.5
	27–30	—	—	—	—	—	—	—	—	82.7	84.1	84.9	84.6	84.7	84.1	85.9	85.5	85.6
Taking one or two drinks nearly every day	18	70.5	69.5	71.9	71.7	73.6	75.4	75.9	71.8	74.9	76.4	79.0	76.6	77.9	76.8	75.8	72.6	72.9
	19–22	71.9	72.1	68.6	73.5	71.6	72.2	72.7	70.2	73.9	77.1	73.3	73.7	74.0	71.2	73.0	68.3	68.9
	23–26	—	—	—	—	63.6	66.8	67.7	68.3	69.2	70.8	72.7	72.5	72.1	67.6	71.5	68.2	72.8
	27–30	—	—	—	—	—	—	—	—	71.0	68.0	70.4	71.9	68.8	73.2	70.9	68.8	65.7
Taking four or five drinks nearly every day	18	87.9	86.4	86.6	86.0	86.1	88.2	87.4	85.6	87.1	87.2	88.2	86.4	87.4	87.2	85.2	84.1	82.6
	19–22	93.7	91.7	89.9	91.9	91.7	92.5	91.5	90.8	90.4	92.5	89.9	91.7	92.6	89.6	90.1	88.8	88.1
	23–26	—	—	—	—	90.8	90.2	92.5	92.8	93.7	92.1	92.1	92.4	91.1	93.1	92.1	92.2	92.6
	27–30	—	—	—	—	—	—	—	—	92.8	92.0	92.9	92.7	92.7	93.9	94.0	92.9	91.9
Having five or more drinks once or twice each weekend	18	50.6	50.3	51.2	50.6	51.3	55.9	54.9	52.4	54.0	56.4	59.0	58.1	60.8	58.5	59.1	58.0	57.8
	19–22	53.5	51.7	51.7	53.3	50.8	53.3	47.0	49.4	50.5	56.8	53.1	51.4	53.6	51.9	54.4	55.5	52.1
	23–26	—	—	—	—	53.8	57.3	61.0	57.2	58.8	57.5	55.1	56.8	58.4	57.6	61.4	58.9	58.4
	27–30	—	—	—	—	—	—	—	—	61.9	65.1	66.3	68.2	66.2	66.7	63.7	64.6	61.6
Smoking one or more packs of cigarettes per day	18	74.4	73.8	70.3	72.2	73.9	73.7	76.2	74.2	76.4	74.4	75.3	74.0	76.2	71.8	72.4	69.2	69.3
	19–22	75.6	75.1	75.4	78.5	76.2	79.7	77.7	78.6	80.2	78.4	77.5	78.3	79.0	76.0	73.8	70.9	73.9
	23–26	—	—	—	—	73.9	77.3	80.3	80.5	79.5	80.5	78.5	83.3	82.3	77.4	80.1	78.8	78.3
	27–30	—	—	—	—	—	—	—	—	81.2	80.9	82.9	84.5	83.1	86.8	82.5	83.4	81.9
Approximate Weighted N =	18	*2,766*	*3,120*	*3,024*	*2,722*	*2,721*	*2,688*	*2,639*	*2,815*	*2,778*	*2,400*	*2,184*	*2,160*	*2,229*	*2,220*	*2,149*	*2,177*	*2,030*
	19–22	*569*	*597*	*580*	*577*	*582*	*556*	*577*	*595*	*584*	*555*	*559*	*537*	*520*	*510*	*470*	*480*	*471*
	23–26					*510*	*548*	*549*	*540*	*510*	*513*	*516*	*516*	*507*	*481*	*463*	*445*	*436*
	27–30									*483*	*518*	*479*	*480*	*451*	*451*	*457*	*439*	*439*

Years cont.

(Table continued on next page.)

TABLE 7-1 (cont.)
Trends in Proportions of Respondents Reporting Their Close Friends Disapproving of Drug Use among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. How do you think your close friends feel (or would feel) about you. . .	Age Group	Percentage saying friends disapprove[a] 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Trying marijuana once or twice	18	53.0	53.8	55.1	58.1	57.6	54.1	58.4	59.5	60.9	62.3	60.4	60.8	61.4	54.9	-6.5 sss
	19–22	58.4	57.0	56.5	56.0	54.2	53.4	56.5	61.0	57.9	60.5	58.4	62.4	57.0	57.4	+0.4
	23–26	59.3	66.5	62.6	64.6	55.2	53.8	51.4	57.7	55.9	60.7	55.8	62.1	57.1	58.0	+0.9
	27–30	65.0	65.4	61.8	63.9	64.9	67.1	61.9	67.2	61.2	64.1	58.2	57.1	55.6	60.5	+4.9
Smoking marijuana occasionally	18	59.9	60.4	61.6	63.9	64.3	60.3	64.2	65.0	67.6	68.1	65.8	66.3	68.5	61.8	-6.7 sss
	19–22	65.1	65.1	64.6	61.8	61.0	62.6	63.3	70.1	67.2	68.8	70.6	67.5	65.9	67.1	+1.2
	23–26	68.5	73.6	70.2	70.9	63.9	64.5	61.6	63.5	65.5	71.3	63.8	70.1	66.8	63.4	-3.4
	27–30	72.4	74.9	74.5	75.0	74.2	72.9	71.4	76.9	70.4	74.9	66.4	67.0	64.6	68.3	+3.6
Smoking marijuana regularly	18	74.1	74.7	74.5	76.1	77.8	75.3	77.0	77.3	79.5	79.8	78.3	78.0	79.1	73.8	-5.3 ss
	19–22	83.3	81.1	78.2	78.5	80.0	80.5	79.1	84.4	82.2	84.1	83.7	81.4	81.9	81.1	-0.7
	23–26	85.6	87.1	86.8	86.9	83.7	82.8	80.0	79.2	82.7	83.7	81.9	87.1	81.9	83.5	+1.6
	27–30	87.8	90.8	89.2	91.6	90.1	87.9	87.2	88.0	87.7	88.2	84.3	84.5	83.4	87.5	+4.1
Trying LSD once or twice[b]	18	79.3	81.7	83.2	84.7	85.5	84.9	87.5	87.3	88.4	89.5	88.4	86.3	87.2	84.5	-2.7 s
	19–22	83.6	81.7	82.0	82.1	85.2	86.9	86.9	88.6	90.5	90.4	90.0	90.0	87.1	—	—
	23–26	85.4	87.6	84.5	85.3	82.8	83.6	79.3	82.4	85.6	89.3	90.4	88.4	88.3	—	—
	27–30	88.5	88.7	88.4	85.6	87.4	86.3	87.1	87.7	86.9	88.5	83.5	85.3	84.6	—	—
Trying cocaine once or twice[b]	18	87.3	88.8	88.7	90.2	89.3	89.1	91.2	87.9	89.0	88.7	89.6	88.7	90.2	89.7	-0.6
	19–22	91.8	90.0	91.2	89.4	89.1	91.7	90.6	90.3	90.3	91.2	93.3	90.2	91.2	—	—
	23–26	91.1	92.0	89.6	90.5	88.0	88.5	83.6	84.2	84.6	88.7	91.7	91.0	91.0	—	—
	27–30	89.4	89.3	90.5	90.4	89.3	88.8	89.9	91.8	89.5	92.0	86.4	88.0	84.5	—	—
Taking cocaine occasionally[b]	18	90.8	92.2	91.8	92.8	92.2	92.2	93.0	91.0	92.3	92.4	93.1	92.0	92.7	91.8	-0.9
	19–22	96.6	93.1	95.7	94.7	94.5	95.6	95.1	96.0	95.3	96.1	97.1	95.5	95.6	—	—
	23–26	95.1	95.2	95.2	96.7	94.7	93.2	91.2	90.1	93.0	94.9	95.9	96.6	95.6	—	—
	27–30	94.2	96.1	95.4	95.9	94.2	94.0	95.1	96.3	94.5	95.4	93.2	94.3	94.3	—	—
Trying an amphetamine once or twice[b]	18	80.4	82.6	83.0	84.1	83.8	83.3	85.9	84.7	86.1	86.7	87.3	87.1	87.0	85.8	-1.2
	19–22	84.5	84.0	85.8	81.6	84.5	87.6	87.6	89.4	88.9	89.4	89.1	90.2	87.4	—	—
	23–26	83.3	87.0	85.9	85.1	83.1	83.9	81.5	82.7	86.2	89.9	89.3	89.6	87.2	—	—
	27–30	85.9	85.8	87.2	87.8	86.4	86.0	87.9	88.9	87.5	88.5	82.9	85.3	85.6	—	—
Taking one or two drinks nearly every day[b]	18	71.5	72.3	71.7	71.6	73.4	71.6	74.7	72.8	74.0	73.2	74.5	75.2	75.5	75.0	-0.5
	19–22	73.5	67.3	68.6	66.6	64.9	68.5	64.4	72.4	68.3	68.7	68.4	69.5	68.8	—	—
	23–26	68.1	66.9	66.1	65.4	64.4	61.6	62.1	61.8	62.3	66.1	62.5	63.4	59.4	—	—
	27–30	67.3	66.7	64.3	67.3	67.1	64.0	64.5	65.0	62.8	64.9	59.4	58.9	59.8	—	—
Taking four or five drinks nearly every day[b]	18	82.5	82.8	82.2	82.8	84.4	80.1	83.1	82.9	82.7	83.3	84.8	84.7	84.6	83.4	-1.1
	19–22	90.0	85.9	87.9	86.6	84.6	87.7	86.8	89.8	86.8	89.0	90.7	88.8	89.9	—	—
	23–26	90.7	93.7	89.9	92.5	91.1	88.1	89.3	87.8	89.1	90.8	87.8	93.8	89.1	—	—
	27–30	93.8	92.1	95.3	92.4	91.2	92.7	92.6	92.5	93.4	92.3	91.3	89.0	93.1	—	—
Having five or more drinks once or twice each weekend	18	56.4	55.5	57.6	57.7	57.8	55.6	60.3	59.4	59.9	60.6	60.0	62.1	63.5	62.0	-1.4
	19–22	56.4	52.8	51.8	45.2	47.4	50.4	47.9	52.4	53.2	54.8	54.4	55.2	54.6	47.7	-6.9
	23–26	55.6	60.0	54.5	56.6	56.9	52.9	49.5	49.5	51.9	56.0	51.3	55.3	51.0	51.2	+0.1
	27–30	64.0	63.0	57.7	65.8	58.8	63.3	59.6	64.6	56.9	62.7	56.3	57.3	52.7	52.9	+0.3
Smoking one or more packs of cigarettes per day	18	68.5	69.0	71.2	72.6	74.5	75.7	79.2	78.6	81.1	81.2	81.4	82.5	81.6	81.4	-0.2
	19–22	76.5	69.2	73.9	71.1	74.3	77.3	78.3	82.1	82.7	84.8	87.0	85.5	86.8	85.7	-1.1
	23–26	75.8	76.5	78.0	79.9	77.0	75.4	78.3	77.6	77.4	84.4	82.6	88.2	88.1	88.0	-0.1
	27–30	80.5	81.9	82.6	84.0	83.6	86.1	84.0	84.6	82.2	84.1	81.3	83.9	85.0	89.5	+4.4
Approximate Weighted N =	18	*2,095*	*2,037*	*1,945*	*1,775*	*1,862*	*1,820*	*2,133*	*2,208*	*2,183*	*2,183*	*2,161*	*2,090*	*2,033*	*2,101*	
	19–22	*466*	*436*	*430*	*379*	*402*	*361*	*399*	*427*	*395*	*395*	*361*	*370*	*389*	*347*	
	23–26	*419*	*425*	*394*	*398*	*378*	*366*	*363*	*377*	*361*	*344*	*349*	*336*	*322*	*355*	
	27–30	*422*	*440*	*397*	*394*	*374*	*364*	*346*	*408*	*362*	*327*	*330*	*318*	*333*	*322*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.
' — ' indicates data not available.

[a]Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

[b]These questions were dropped from the questionnaires beginning in 2010.

TABLE 7-2
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Percentage saying friends use[a]

Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Take any illicit drug[b]																		
% saying any	18	87.5	85.4	86.3	82.6	81.0	82.4	82.2	81.7	79.1	76.9	71.0	69.1	67.3	71.0	78.3	78.6	80.6
	19–22	90.2	88.0	86.8	85.0	82.3	82.9	80.5	76.7	77.2	78.4	72.7	71.5	66.8	71.7	71.6	71.6	76.2
	23–26	—	—	—	—	83.6	82.7	80.3	80.9	74.4	73.8	65.8	63.0	67.3	64.6	66.7	65.3	64.6
	27–30	—	—	—	—	—	—	—	—	74.8	72.9	69.6	67.1	61.5	60.2	57.1	58.5	59.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	38.1	37.4	39.7
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	32.5	29.8	26.5	23.8	20.9	22.7	21.5	18.6	15.8	15.7	11.6	11.7	12.0	15.5	20.3	21.7	23.8
	19–22	34.9	32.8	28.1	22.4	21.9	18.2	16.2	14.0	13.5	10.9	10.5	8.8	9.0	10.4	14.9	13.1	17.3
	23–26	—	—	—	—	19.6	15.4	16.2	11.7	9.5	9.7	9.5	7.4	6.2	6.4	8.7	7.6	8.8
	27–30	—	—	—	—	—	—	—	—	8.6	6.4	5.9	2.9	5.8	5.0	5.6	6.1	3.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1	1.9	2.0
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take any illicit drug[b] other than marijuana																		
% saying any	18	62.4	63.3	64.7	61.2	61.3	61.8	63.3	62.4	56.5	56.2	50.1	46.3	47.1	48.7	53.7	53.7	54.5
	19–22	67.9	67.8	66.7	65.2	60.8	62.1	61.0	57.3	53.5	60.8	53.4	51.5	45.3	51.4	46.3	46.4	46.5
	23–26	—	—	—	—	63.7	64.0	59.0	61.1	55.1	54.2	47.8	41.8	46.1	42.3	39.4	40.3	32.8
	27–30	—	—	—	—	—	—	—	—	55.9	55.0	49.7	47.2	37.7	38.5	33.9	37.7	36.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.4	21.6	22.1
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	11.1	11.9	10.9	11.0	10.3	10.4	10.3	9.2	6.9	7.7	5.1	4.6	5.3	7.1	7.1	7.7	8.9
	19–22	9.8	12.9	11.8	9.8	9.3	8.6	7.6	5.0	5.3	4.0	3.2	2.6	3.3	4.0	4.4	3.5	6.2
	23–26	—	—	—	—	10.6	6.6	8.6	5.2	3.9	4.2	3.4	1.6	1.8	2.8	2.5	1.9	1.9
	27–30	—	—	—	—	—	—	—	—	4.6	3.0	2.8	1.0	1.4	1.5	1.5	1.5	0.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	0.5	0.7
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smoke marijuana																		
% saying any	18	86.4	83.0	84.4	80.3	77.7	79.5	79.2	78.4	75.3	72.5	68.3	65.8	63.1	67.4	75.6	76.1	78.0
	19–22	88.8	86.4	85.2	83.8	81.6	81.1	78.5	75.3	75.1	73.8	67.6	68.0	63.5	67.6	67.4	68.8	74.9
	23–26	—	—	—	—	82.0	80.8	77.7	79.4	71.6	69.8	61.8	59.6	61.3	61.2	62.6	63.2	62.6
	27–30	—	—	—	—	—	—	—	—	71.8	68.2	65.1	62.6	58.0	57.4	52.3	55.7	55.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.9	36.3	36.3
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	31.3	27.7	23.8	21.7	18.3	19.8	18.2	15.8	13.6	13.4	10.1	10.0	10.3	13.9	18.9	20.7	22.2
	19–22	34.1	30.6	25.6	20.6	19.4	16.0	13.3	12.5	12.2	9.0	9.2	8.3	8.2	8.5	13.0	12.5	16.3
	23–26	—	—	—	—	17.0	14.3	13.7	10.4	7.8	8.6	8.3	6.9	5.6	5.6	7.5	6.6	8.2
	27–30	—	—	—	—	—	—	—	—	6.8	4.4	4.0	2.8	5.1	5.2	5.0	5.6	3.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0	2.5	2.9
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Years cont.

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use[a] 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Take any illicit drug[b]																
% saying any	18	83.4	84.6	82.0	82.0	82.8	81.8	80.7	81.2	79.8	78.8	77.7	80.1	79.2	80.4	+1.2
	19–22	77.2	79.8	77.3	83.1	81.1	78.3	79.4	78.1	78.6	74.7	79.8	77.4	80.3	78.6	-1.8
	23–26	67.0	67.6	67.9	67.8	66.9	73.4	70.8	70.8	74.2	72.2	71.3	72.2	74.5	75.7	+1.2
	27–30	60.9	58.3	59.6	55.6	57.2	61.8	58.6	63.1	63.7	62.3	62.7	66.7	70.0	66.9	-3.0
	35	39.2	38.4	36.3	37.7	39.1	40.9	37.5	37.9	40.0	40.4	42.1	44.9	44.4	45.0	+0.6
	40	—	39.2	38.2	38.0	38.4	36.2	36.5	34.6	36.2	35.4	34.6	35.9	39.0	37.3	-1.8
	45	—	—	—	—	—	—	37.8	38.3	34.3	36.7	38.5	35.9	36.1	37.7	+1.6
	50	—	—	—	—	—	—	—	—	—	—	—	39.3	37.0	36.5	-0.5
% saying most or all	18	23.7	25.9	25.5	24.5	25.2	23.1	23.5	23.0	20.2	20.9	21.7	21.3	22.4	25.4	+3.1
	19–22	16.2	16.8	20.6	18.9	20.3	20.2	17.3	14.7	15.8	16.8	14.5	13.7	16.0	17.2	+1.2
	23–26	10.5	9.6	8.4	9.7	10.4	10.3	10.3	11.7	9.7	11.1	8.1	8.9	12.7	13.9	+1.2
	27–30	4.5	5.3	5.7	5.3	7.1	6.9	6.9	3.9	4.7	5.4	6.5	6.3	6.4	6.6	+0.1
	35	3.0	3.1	2.8	3.1	3.2	2.9	3.2	2.8	2.5	2.1	2.2	2.2	2.5	3.7	+1.2
	40	—	2.3	2.0	2.0	1.6	2.2	1.6	1.6	2.1	2.5	2.0	1.3	1.3	2.1	+0.8
	45	—	—	—	—	—	—	2.2	1.5	1.4	1.7	1.3	1.3	1.2	1.5	0.3
	50	—	—	—	—	—	—	—	—	—	—	—	1.4	1.4	1.4	0.0
Take any illicit drug[b] other than marijuana	18	55.1	55.6	51.2	52.5	55.0	54.3	50.0	51.4	51.3	51.0	50.0	49.3	49.4	53.7	+4.2 s
% saying any	19–22	49.7	53.3	54.8	56.1	60.0	57.2	50.8	53.4	54.9	49.5	52.5	46.4	47.5	52.0	+4.5
	23–26	35.1	35.4	41.1	42.5	42.6	49.4	42.3	47.1	46.6	45.6	42.6	45.9	44.4	52.4	+7.9 s
	27–30	33.9	34.1	35.2	31.7	33.5	36.0	34.7	35.8	33.1	36.2	34.2	36.4	41.6	40.1	-1.6
	35	19.2	19.3	19.0	17.9	18.7	20.4	18.5	20.2	18.5	18.1	20.7	23.7	20.2	23.9	+3.8 s
	40	—	20.9	21.0	21.9	21.4	21.0	20.2	18.5	21.0	20.3	20.3	19.8	20.6	18.8	-1.7
	45	—	—	—	—	—	—	23.4	25.1	20.8	22.7	25.0	21.2	20.7	20.9	+0.2
	50	—	—	—	—	—	—	—	—	—	—	—	24.5	24.8	21.7	-3.1
% saying most or all	18	7.0	8.9	7.4	7.4	7.0	6.1	6.7	7.3	6.7	5.3	6.5	5.3	5.6	7.1	+1.5
	19–22	4.1	4.3	5.1	7.7	8.0	5.7	5.1	3.5	4.8	4.2	3.9	3.4	3.6	4.8	+1.2
	23–26	2.6	2.8	2.2	3.8	3.7	2.8	3.7	3.1	3.2	3.2	1.0	1.5	2.9	3.2	+0.4
	27–30	1.2	0.9	1.3	1.5	2.6	2.3	0.7	0.8	0.9	1.4	2.2	2.5	1.7	1.5	-0.3
	35	0.5	0.7	0.9	1.0	0.9	0.6	0.6	0.4	0.5	0.5	0.6	0.5	0.5	1.0	+0.6
	40	—	0.4	0.8	0.7	0.5	0.3	0.3	0.2	0.5	0.7	0.6	0.7	0.3	*	-0.3
	45	—	—	—	—	—	—	0.7	0.7	0.4	0.9	0.5	0.5	0.3	0.3	0.0
	50	—	—	—	—	—	—	—	—	—	—	—	0.5	0.4	0.3	-0.1
Smoke marijuana																
% saying any	18	81.4	83.2	80.7	80.5	81.2	79.4	78.9	79.5	77.4	76.4	74.8	78.2	77.2	79.7	+2.5
	19–22	74.7	77.2	73.9	81.2	78.4	77.2	76.5	75.6	75.8	72.0	76.6	74.7	77.7	75.6	-2.1
	23–26	63.5	65.0	64.4	64.8	64.5	68.8	67.7	68.4	70.7	67.6	69.0	67.7	71.7	71.9	+0.3
	27–30	58.3	55.5	57.0	51.7	56.5	59.0	55.8	60.4	60.8	61.0	60.2	64.2	65.2	62.3	-3.0
	35	35.0	34.6	33.3	34.9	35.6	37.4	32.9	34.7	37.2	37.3	38.6	42.1	40.6	41.3	+0.7
	40	—	34.6	32.5	32.3	31.8	31.4	30.7	29.9	30.4	29.4	29.2	29.6	33.6	32.1	-1.5
	45	—	—	—	—	—	—	31.1	29.4	26.3	28.4	30.0	28.6	29.4	32.6	+3.2
	50	—	—	—	—	—	—	—	—	—	—	—	30.1	26.9	28.0	+1.1
% saying most or all	18	22.5	23.8	24.2	23.2	24.0	21.4	21.7	21.1	17.9	19.6	19.2	19.9	20.9	23.6	+2.7
	19–22	16.2	16.4	19.4	16.6	18.5	18.6	16.0	15.0	13.4	15.7	13.4	11.5	14.5	15.4	+0.9
	23–26	9.8	9.0	8.5	8.2	9.0	8.7	9.3	9.8	8.0	10.1	7.9	8.5	12.2	12.3	+0.1
	27–30	3.9	4.8	5.5	4.9	6.3	6.2	6.7	3.5	4.3	5.0	6.6	5.0	5.8	6.3	+0.5
	35	2.9	2.8	2.6	2.8	2.6	2.7	3.1	2.7	2.3	2.0	2.1	1.9	2.3	3.4	+1.1
	40	—	2.1	1.4	1.9	1.2	2.0	1.4	1.6	1.8	2.1	1.6	0.9	1.2	2.1	+0.9
	45	—	—	—	—	—	—	1.9	0.9	1.3	1.1	1.0	1.0	1.1	1.3	+0.2
	50	—	—	—	—	—	—	—	—	—	—	—	1.2	1.2	1.2	0.0

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(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Percentage saying friends use[a]

Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Use inhalants																		
% saying any	18	17.8	16.5	18.4	16.1	19.3	21.2	22.4	24.7	20.8	22.1	20.0	19.2	22.2	23.7	26.5	27.5	27.2
	19–22	11.9	13.2	13.8	12.3	11.7	9.6	10.9	12.7	10.9	11.7	13.0	12.2	12.6	13.8	14.0	14.2	16.2
	23–26	—	—	—	—	7.7	6.7	7.2	6.1	6.2	5.9	6.1	4.4	5.1	6.3	7.0	9.3	5.6
	27–30	—	—	—	—	—	—	—	—	4.6	3.5	2.9	2.5	3.3	2.9	3.5	4.0	4.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.2	0.9	1.3	1.1	1.1	1.5	2.0	1.9	1.2	1.9	1.0	0.7	1.8	1.8	2.0	2.0	2.4
	19–22	0.5	0.4	0.7	0.3	0.5	0.6	0.7	0.7	0.7	0.4	0.6	0.2	0.8	0.7	0.7	0.6	1.1
	23–26	—	—	—	—	0.6	0.2	0.6	0.1	0.2	0.4	0.4	0.1	*	0.1	0.2	0.7	0.5
	27–30	—	—	—	—	—	—	—	—	0.3	*	0.2	0.2	*	0.2	*	*	*
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use nitrites																		
% saying any	18	19.0	17.4	17.5	14.5	15.0	15.6	18.0	18.3	13.6	13.3	10.4	8.9	9.0	10.7	10.0	10.7	11.2
	19–22	18.4	16.0	14.2	13.8	8.9	9.9	11.7	13.2	10.2	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	10.8	7.8	8.0	7.9	5.2	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	6.6	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.3	1.2	0.9	0.7	1.2	1.0	1.2	1.3	0.7	0.9	0.6	0.4	0.7	0.7	0.8	0.8	0.8
	19–22	0.3	0.4	0.9	0.6	0.6	0.6	0.4	0.4	0.2	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	0.8	0.3	0.4	0.3	0.1	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	0.5	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take LSD																		
% saying any	18	28.1	28.5	27.8	24.0	23.9	24.4	24.5	25.3	24.1	25.2	25.0	23.4	28.1	31.3	34.1	36.9	37.9
	19–22	30.9	25.9	26.5	22.6	21.6	18.8	18.7	18.2	19.0	20.1	20.1	22.0	22.2	28.8	23.8	26.9	28.6
	23–26	—	—	—	—	21.5	17.2	15.4	15.9	13.3	14.1	12.3	12.5	15.0	17.2	17.3	21.5	15.3
	27–30	—	—	—	—	—	—	—	—	10.4	7.7	9.1	8.6	10.9	8.7	8.1	12.0	11.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.8	2.2	2.4	1.4	2.0	1.5	1.8	1.6	1.5	2.4	1.9	1.7	2.4	3.8	4.2	4.8	5.0
	19–22	1.2	0.8	0.9	1.0	0.6	0.8	0.9	0.6	1.3	0.4	1.2	1.4	1.9	2.1	2.5	2.3	3.8
	23–26	—	—	—	—	0.8	0.5	1.0	0.2	0.6	0.5	0.6	0.2	0.4	0.7	1.1	0.7	0.7
	27–30	—	—	—	—	—	—	—	—	0.3	0.2	0.3	0.3	*	0.3	0.4	0.3	0.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Years cont.

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use[a] 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Use inhalants																
% saying any	18	27.4	25.9	21.6	23.5	22.2	21.0	17.5	17.9	18.1	18.9	17.9	18.0	18.0	19.0	+1.0
	19–22	13.7	16.2	16.3	13.7	13.7	10.4	10.0	9.5	11.1	11.0	9.6	7.4	6.6	8.3	+1.6
	23–26	7.5	6.2	7.9	6.9	7.5	7.4	7.9	6.2	5.8	5.2	3.7	6.1	6.5	6.0	-0.5
	27–30	3.6	3.8	4.2	3.6	6.0	4.5	3.2	2.6	3.2	3.3	2.8	2.7	3.6	1.7	-1.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.9	2.7	1.8	1.4	1.4	1.2	1.1	1.2	2.0	1.2	1.6	1.1	0.9	1.8	+0.9 s
	19–22	0.7	1.3	0.8	0.6	1.2	0.4	0.6	*	0.1	0.5	0.3	0.6	*	0.6	+0.6
	23–26	0.8	*	0.1	0.7	0.1	0.4	0.3	*	0.1	0.3	*	*	*	0.1	+0.1
	27–30	*	*	*	*	0.3	0.3	*	*	*	*	*	0.3	0.3	*	-0.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use nitrites																
% saying any	18	11.9	12.9	10.9	11.0	11.9	11.2	8.5	9.4	9.1	8.1	7.7	7.3	7.7	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	0.7	1.0	0.7	1.0	0.6	0.8	1.0	1.2	1.0	0.5	0.7	0.5	0.2	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take LSD																
% saying any	18	36.5	36.8	32.2	31.9	32.2	28.6	21.9	23.5	19.5	18.7	18.3	20.9	21.3	22.3	+0.9
	19–22	24.7	29.4	28.2	27.8	28.4	24.0	15.4	15.9	13.9	14.2	15.1	12.5	12.8	16.0	+3.2
	23–26	18.2	15.2	18.1	19.3	16.8	15.8	16.1	14.4	12.0	11.7	11.2	9.2	11.0	11.9	+0.9
	27–30	12.3	12.6	13.4	11.8	12.5	13.1	11.4	8.9	6.6	9.1	7.6	8.8	7.6	8.2	+0.7
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	3.7	4.7	3.9	3.1	2.9	1.7	1.9	1.5	1.5	0.8	1.2	1.1	1.1	1.5	+0.4
	19–22	1.4	2.5	1.8	2.1	2.7	1.6	0.8	0.3	0.3	0.2	0.8	0.2	0.3	1.4	+1.1
	23–26	0.6	1.0	1.5	0.9	0.3	0.4	0.8	0.4	0.2	0.3	*	0.1	0.5	0.1	-0.4
	27–30	0.4	0.1	0.6	0.4	0.4	0.3	0.1	*	0.3	0.4	0.4	*	0.5	0.2	-0.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Percentage saying friends use[a]

Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Take other hallucinogens[c]	18	28.2	26.3	25.6	22.1	21.3	22.0	22.3	21.7	17.8	18.1	15.9	15.1	17.0	19.3	21.4	23.8	26.4
% saying any	19–22	33.4	25.5	25.1	21.0	20.2	16.6	15.8	15.0	16.1	13.9	15.3	14.2	12.0	15.0	13.8	14.9	17.2
	23–26	—	—	—	—	20.0	16.7	13.2	13.2	11.7	9.6	8.7	8.5	9.8	9.4	10.3	11.7	10.4
	27–30	—	—	—	—	—	—	—	—	10.6	7.4	7.1	6.8	7.9	7.1	6.6	7.9	7.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	2.2	2.1	1.9	1.6	1.9	1.4	1.3	1.2	0.9	1.4	1.0	0.8	1.0	1.7	2.2	2.2	2.3
	19–22	1.5	0.9	1.1	1.2	0.7	1.0	0.7	0.6	0.9	0.2	0.5	0.8	0.7	0.9	1.6	1.5	1.0
	23–26	—	—	—	—	0.8	0.3	0.5	0.3	0.2	0.3	0.8	0.1	0.4	0.7	0.6	0.8	0.1
	27–30	—	—	—	—	—	—	—	—	0.2	0.1	0.3	0.2	*	0.2	0.3	0.1	0.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take PCP																		
% saying any	18	22.2	17.2	17.3	14.2	14.2	15.9	16.1	15.5	13.5	14.7	13.0	12.0	12.7	15.6	15.5	18.3	20.3
	19–22	24.1	15.3	15.3	12.6	9.5	8.9	10.1	9.7	10.1	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	11.6	6.8	7.4	6.9	5.1	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	6.7	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.6	0.9	0.9	1.1	1.1	1.2	1.2	1.1	0.8	1.2	0.5	0.5	0.9	1.9	1.2	1.2	1.3
	19–22	0.5	0.3	0.3	0.5	0.7	0.7	0.2	0.1	0.3	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	0.6	*	0.4	*	0.2	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	0.4	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take ecstasy (MDMA)																		
% saying any	18	—	—	—	—	—	—	—	—	—	—	12.4	11.9	10.7	12.8	15.9	20.7	24.2
	19–22	—	—	—	—	—	—	—	—	—	16.3	14.3	12.0	12.9	13.7	11.3	17.2	20.7
	23–26	—	—	—	—	—	—	—	—	—	7.6	9.0	9.5	11.0	9.8	11.4	11.2	11.3
	27–30	—	—	—	—	—	—	—	—	—	5.6	6.3	5.4	4.6	6.6	5.8	6.9	10.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	—	—	—	—	—	—	—	—	—	—	2.2	1.7	2.1	1.2	1.7	2.8	3.0
	19–22	—	—	—	—	—	—	—	—	—	0.4	0.7	0.2	0.7	0.7	0.5	0.5	0.8
	23–26	—	—	—	—	—	—	—	—	—	0.5	0.2	0.1	0.1	0.5	0.1	0.4	0.1
	27–30	—	—	—	—	—	—	—	—	—	0.5	0.3	*	0.1	0.3	0.2	0.5	0.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use[a] 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Take other hallucinogens[c]	18	26.3	27.4	22.5	24.0	35.4	33.6	30.1	31.9	31.0	30.1	30.1	29.4	30.5	32.3	+1.8
% saying any	19–22	17.2	19.1	18.9	20.9	33.6	33.5	24.8	26.8	25.1	27.8	26.7	21.9	21.8	26.4	+4.7
	23–26	13.0	11.7	9.6	11.3	18.6	22.4	20.2	24.5	18.5	18.9	15.9	21.1	19.6	22.6	+3.0
	27–30	6.8	7.8	9.4	8.0	14.6	14.9	13.5	12.4	9.4	14.9	10.6	16.9	12.1	14.9	+2.8
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	2.6	3.1	2.4	2.4	2.9	2.3	2.4	2.6	2.2	1.7	1.7	1.8	1.6	2.0	+0.4
	19–22	1.1	1.7	0.8	2.0	2.3	2.2	1.5	1.1	0.6	0.9	1.0	1.3	0.6	0.9	+0.3
	23–26	0.8	0.7	0.8	0.3	0.6	0.7	1.0	0.8	0.7	1.0	0.4	0.4	1.2	0.2	-1.0
	27–30	0.3	0.2	0.2	0.4	0.6	1.0	0.1	*	0.4	0.4	0.4	0.4	0.6	0.7	+0.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take PCP																
% saying any	18	19.7	20.2	16.8	17.5	19.1	17.2	13.6	11.8	10.1	10.6	9.4	9.4	9.3	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.4	1.6	1.5	1.7	1.3	1.0	1.5	1.1	1.0	0.5	0.8	0.5	0.5	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take ecstasy (MDMA)																
% saying any	18	27.7	24.5	26.7	37.3	41.9	38.0	34.2	28.9	23.1	23.0	23.6	24.7	23.5	25.9	+2.4
	19–22	21.4	26.0	30.7	42.4	43.3	43.4	31.3	27.6	28.3	25.2	21.6	19.3	24.4	20.4	-4.0
	23–26	15.1	13.7	15.2	25.9	29.4	36.8	27.0	31.2	25.3	23.4	16.5	20.8	19.7	20.7	+1.0
	27–30	7.4	8.5	12.4	13.1	17.8	20.6	19.4	20.6	15.6	22.6	15.9	17.8	17.0	12.7	-4.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	2.6	2.5	2.7	4.8	5.2	3.7	2.7	3.2	2.5	1.9	2.1	2.4	2.2	2.1	-0.1
	19–22	1.7	2.0	2.9	4.9	5.8	2.7	1.9	1.9	1.1	0.7	0.8	0.9	1.6	1.3	-0.3
	23–26	0.8	0.8	0.4	2.9	1.7	1.2	2.0	1.1	1.3	0.9	0.3	0.4	0.7	0.6	-0.1
	27–30	0.3	*	0.8	0.4	0.3	0.9	0.5	0.6	0.2	*	0.1	0.9	0.7	0.1	-0.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Percentage saying friends use[a]

Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Take cocaine																		
% saying any	18	41.6	40.1	40.7	37.6	38.9	43.8	45.6	43.7	37.7	37.4	31.7	26.8	26.3	24.5	26.1	24.8	28.1
	19–22	51.0	48.9	49.8	46.5	47.6	45.9	48.3	45.7	42.0	42.7	33.2	29.7	22.8	24.3	21.5	22.0	19.4
	23–26	—	—	—	—	52.4	53.2	51.6	50.7	47.1	40.8	34.8	29.0	28.8	27.1	22.3	24.4	18.1
	27–30	—	—	—	—	—	—	—	—	47.9	43.3	38.3	35.7	29.9	27.6	22.6	26.2	20.8
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	6.1	6.3	4.9	5.1	5.1	5.8	6.2	5.1	3.4	3.7	2.1	1.5	1.5	2.1	1.5	2.0	2.2
	19–22	7.0	8.6	7.8	6.1	6.3	6.1	6.1	3.3	3.5	2.1	1.2	1.1	1.0	0.5	1.5	0.9	1.0
	23–26	—	—	—	—	9.1	5.3	7.0	4.1	3.1	2.7	2.1	0.6	0.9	0.8	1.0	0.3	0.4
	27–30	—	—	—	—	—	—	—	—	3.8	2.0	2.3	0.9	1.2	0.8	0.8	0.4	0.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take crack																		
% saying any	18	—	—	—	—	—	—	—	27.4	25.4	26.1	19.2	17.6	17.8	17.9	20.0	19.2	21.6
	19–22	—	—	—	—	—	—	—	23.8	21.8	20.6	14.6	14.3	11.8	13.6	13.8	14.0	9.4
	23–26	—	—	—	—	—	—	—	26.4	22.4	19.8	14.4	10.8	10.8	8.8	8.8	11.1	8.2
	27–30	—	—	—	—	—	—	—	—	22.1	18.4	16.6	11.6	10.3	10.2	10.4	10.3	8.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.5	5.1	4.4
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	—	—	—	—	—	—	—	2.2	1.1	2.1	0.6	0.6	0.7	0.9	1.0	1.1	0.9
	19–22	—	—	—	—	—	—	—	0.7	0.8	1.0	0.6	0.2	0.1	0.3	0.4	0.3	0.5
	23–26	—	—	—	—	—	—	—	0.8	0.9	0.8	0.5	0.1	0.1	0.5	0.2	*	0.3
	27–30	—	—	—	—	—	—	—	—	1.2	0.9	0.9	0.3	*	0.6	0.3	0.1	0.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.3	0.4
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take cocaine powder																		
% saying any	18	—	—	—	—	—	—	—	—	—	25.3	24.6	19.8	19.7	18.1	20.7	19.2	22.8
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.2	12.9	15.4
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	—	—	—	—	—	—	—	—	—	2.3	2.5	1.8	2.0	1.6	1.9	1.7	1.9
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	0.3	0.6
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Years cont.

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use[a] 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Take cocaine																
% saying any	18	28.2	31.2	27.8	27.2	27.1	26.8	23.8	29.3	28.1	29.7	29.7	25.2	24.0	22.9	-1.1
	19–22	22.2	26.8	25.7	24.8	27.4	28.2	25.5	26.2	27.2	26.6	29.4	21.8	21.2	21.8	+0.5
	23–26	19.7	18.7	20.1	20.3	19.4	23.7	21.9	27.4	25.6	24.6	23.1	23.1	23.5	28.0	+4.5
	27–30	21.5	18.6	20.7	16.5	19.7	16.0	17.0	17.0	17.9	19.5	18.6	20.7	22.1	19.2	-2.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	2.0	3.2	2.9	2.0	1.7	1.7	2.4	2.3	2.3	1.9	2.1	1.2	1.8	1.4	-0.3
	19–22	0.8	1.5	1.1	1.0	1.8	1.0	1.4	0.7	2.1	1.0	1.1	1.3	0.5	0.2	-0.3
	23–26	1.1	0.9	0.5	0.8	1.6	1.0	1.6	1.0	1.5	1.4	0.8	0.6	1.7	0.9	-0.8
	27–30	0.6	0.1	0.4	0.4	0.5	0.6	0.3	0.3	*	*	1.4	0.9	0.7	0.2	-0.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take crack																
% saying any	18	22.2	24.4	19.0	21.4	23.4	21.5	18.7	22.5	22.9	22.3	21.8	19.1	18.8	15.2	-3.6 s
	19–22	13.1	16.4	15.7	16.5	17.4	18.0	11.8	16.0	14.9	14.5	16.0	12.2	11.3	7.2	-4.1
	23–26	8.3	8.3	8.8	7.9	8.6	10.1	10.4	10.8	10.8	10.0	8.7	9.8	8.5	7.0	-1.4
	27–30	6.3	6.4	8.7	6.0	7.1	6.4	6.5	5.2	8.5	9.1	6.9	5.8	9.5	3.6	-5.9 ss
	35	3.1	2.8	3.2	3.9	2.8	3.2	2.8	3.1	2.6	2.8	3.0	2.8	2.5	3.4	+0.9
	40	—	3.8	3.0	2.9	3.5	2.6	2.7	2.6	2.8	2.3	3.1	1.9	1.2	1.5	+0.3
	45	—	—	—	—	—	—	3.7	3.3	2.4	3.0	2.9	1.8	2.3	2.2	-0.1
	50	—	—	—	—	—	—	—	—	—	—	—	2.0	1.6	1.8	+0.2
% saying most or all	18	1.1	1.7	1.5	1.4	0.8	0.8	1.4	1.6	1.6	1.0	1.3	1.1	1.1	1.5	+0.4
	19–22	0.3	0.9	0.9	0.5	0.3	0.2	0.4	0.1	1.0	0.8	0.3	0.4	0.3	*	-0.3
	23–26	0.5	0.4	*	0.5	0.3	*	0.3	0.5	0.2	0.7	0.1	0.3	*	0.4	+0.4
	27–30	0.2	0.1	*	*	*	0.3	0.1	*	0.1	*	0.3	0.6	0.3	*	-0.3
	35	*	0.1	0.3	0.5	0.2	0.3	0.3	0.1	0.2	0.2	0.2	*	0.1	0.3	+0.2
	40	—	*	0.2	0.2	0.1	*	*	*	0.1	0.2	0.1	0.0	*	*	0.0
	45	—	—	—	—	—	—	0.4	0.3	0.2	0.2	*	*	0.1	*	-0.1
	50	—	—	—	—	—	—	—	—	—	—	—	0.2	0.1	0.2	+0.1
Take cocaine powder																
% saying any	18	24.8	22.9	22.0	21.3	20.1	22.4	23.2	25.4	23.2	22.8	22.3	22.6	19.1	17.6	-1.6
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	11.1	10.4	10.0	10.3	9.4	9.4	8.2	9.2	8.3	8.4	9.1	11.4	8.7	10.5	+1.8
	40	—	10.8	8.9	8.8	8.8	8.5	7.6	7.6	8.9	7.3	6.7	6.2	6.5	4.9	-1.6
	45	—	—	—	—	—	—	8.3	8.0	7.0	7.4	8.0	6.7	6.4	5.9	-0.6
	50	—	—	—	—	—	—	—	—	—	—	—	6.0	5.4	5.3	-0.1
% saying most or all	18	2.0	1.9	1.9	1.8	1.5	1.9	1.9	3.3	1.7	1.7	1.8	1.5	1.5	1.0	-0.5
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	0.4	0.4	0.6	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.2	0.2	0.4	+0.3
	40	—	0.2	0.2	*	0.2	0.1	0.1	0.1	0.2	0.5	0.2	0.2	0.1	*	-0.1
	45	—	—	—	—	—	—	0.5	0.5	0.2	0.4	0.1	0.1	*	*	0.0
	50	—	—	—	—	—	—	—	—	—	—	—	0.2	0.2	0.2	0.0

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Percentage saying friends use[a]

Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Take heroin																		
% saying any	18	13.0	12.5	13.2	12.0	13.0	14.5	15.3	13.9	12.4	14.0	11.4	11.4	13.2	13.3	14.3	14.5	15.6
	19–22	11.0	8.1	9.4	7.5	7.1	6.5	8.5	8.5	7.8	6.8	6.5	6.1	4.7	7.0	8.1	10.4	6.7
	23–26	—	—	—	—	6.1	4.4	4.3	6.5	3.6	5.2	4.2	3.6	3.8	4.5	4.9	5.8	4.0
	27–30	—	—	—	—	—	—	—	—	3.8	2.8	4.5	2.7	3.1	3.6	4.2	3.6	4.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.0	0.5	0.7	0.8	0.8	0.9	1.1	0.9	0.7	1.1	0.4	0.4	0.7	1.1	1.0	1.1	0.9
	19–22	0.3	0.5	0.1	0.2	0.4	0.6	0.2	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.4	0.4	0.4
	23–26	—	—	—	—	0.4	0.2	0.2	*	0.2	0.4	0.2	0.3	0.4	0.1	0.2	0.2	*
	27–30	—	—	—	—	—	—	—	—	0.2	0.1	0.2	0.2	*	0.2	0.3	*	*
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take other narcotics[d]																		
% saying any	18	22.4	23.1	23.9	20.8	21.4	22.8	21.8	23.2	19.2	19.2	17.2	13.7	14.9	16.1	18.5	19.5	21.8
	19–22	22.8	20.4	21.9	17.9	17.4	16.9	14.6	15.4	14.1	15.0	12.9	14.1	10.8	13.2	10.5	15.9	13.4
	23–26	—	—	—	—	16.0	14.9	14.0	13.0	10.6	10.8	10.5	8.5	8.4	8.7	8.0	10.5	8.9
	27–30	—	—	—	—	—	—	—	—	12.1	8.6	9.1	9.3	7.5	8.2	8.0	7.7	9.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.7	1.5	1.4	1.4	1.6	1.4	1.8	1.4	1.2	1.4	0.9	0.5	1.1	1.2	1.0	1.6	1.5
	19–22	0.9	0.7	0.6	0.5	0.8	1.0	0.5	0.4	0.9	0.1	0.6	0.4	0.5	0.6	0.6	0.6	0.4
	23–26	—	—	—	—	0.4	0.3	0.7	*	0.3	0.2	0.2	*	*	*	0.3	0.2	*
	27–30	—	—	—	—	—	—	—	—	0.3	*	0.2	0.2	0.1	0.2	0.2	*	0.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take amphetamines																		
% saying any	18	43.9	48.8	50.6	46.1	45.1	43.3	41.8	39.5	33.4	33.5	28.7	24.3	24.3	27.5	28.1	30.3	32.2
	19–22	54.1	52.2	51.3	49.7	46.1	42.1	38.5	34.5	26.8	29.6	23.3	26.2	19.5	21.0	20.9	21.7	21.6
	23–26	—	—	—	—	45.6	40.1	33.5	32.1	28.4	23.1	20.6	17.1	15.1	16.8	16.2	18.2	12.5
	27–30	—	—	—	—	—	—	—	—	26.1	21.6	19.3	17.0	15.3	14.0	13.1	13.7	15.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	4.8	6.4	5.4	5.1	4.5	3.4	3.4	2.6	1.9	2.6	1.9	1.3	1.3	2.0	1.8	2.0	2.8
	19–22	3.8	5.7	4.6	3.8	3.3	2.9	1.3	1.9	1.4	0.7	1.0	0.6	0.9	0.2	1.1	1.2	0.7
	23–26	—	—	—	—	1.9	1.8	1.7	1.2	0.3	0.6	0.7	0.8	0.4	1.5	0.9	0.5	0.2
	27–30	—	—	—	—	—	—	—	—	0.6	0.4	0.5	0.5	0.1	0.5	0.5	0.3	0.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Years cont.

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use[a] 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Take heroin																
% saying any	18	15.6	16.5	12.7	14.9	13.1	12.9	10.3	12.7	13.1	12.7	12.9	11.2	12.7	12.4	-0.3
	19–22	7.4	9.4	9.7	7.7	8.7	8.9	5.3	7.0	6.4	7.5	9.0	6.4	3.9	5.3	+1.4
	23–26	6.2	5.8	4.8	4.7	5.0	5.2	6.1	2.9	5.1	3.5	4.3	3.1	5.9	6.9	+1.0
	27–30	4.2	3.5	3.8	2.8	4.3	3.9	3.4	3.0	3.8	2.5	3.0	2.1	3.9	3.3	-0.7
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	0.8	1.3	1.0	1.1	0.9	0.7	0.9	0.9	1.1	0.8	1.4	0.7	0.9	1.3	+0.3
	19–22	0.2	0.5	0.1	0.3	0.6	*	0.3	*	0.3	0.4	0.3	0.6	*	*	0.0
	23–26	0.7	*	*	0.3	*	0.1	*	*	0.3	0.3	*	*	0.1	0.5	+0.4
	27–30	*	0.1	*	*	*	0.3	*	*	*	*	*	*	0.3	*	-0.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take other narcotics[d]																
% saying any	18	22.2	24.8	22.9	23.1	24.0	27.5	21.6	24.6	21.4	23.0	20.7	20.6	21.5	36.3	+14.8 sss
	19–22	13.2	15.2	19.8	23.2	23.0	21.8	21.9	22.6	19.9	17.6	23.7	16.8	15.3	31.4	+16.1 sss
	23–26	9.9	9.4	10.4	11.2	13.5	14.6	18.4	16.8	18.3	17.6	14.2	16.0	19.3	36.7	+17.5 sss
	27–30	7.9	8.3	7.2	8.4	11.2	11.8	11.0	12.0	12.5	13.1	10.6	14.3	14.2	28.4	+14.2 sss
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.4	2.9	1.8	2.0	2.0	2.1	2.4	2.4	1.9	1.8	2.6	1.3	1.9	3.8	+1.9 ss
	19–22	0.4	0.8	0.4	1.2	1.8	1.3	1.0	0.5	1.0	0.9	0.3	1.3	0.4	1.8	+1.4
	23–26	0.6	0.3	*	0.4	0.5	0.6	0.6	0.5	0.8	0.5	0.3	0.1	0.9	1.6	+0.7
	27–30	*	*	0.2	*	*	0.3	0.1	*	*	0.6	*	0.6	0.6	0.9	+0.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take amphetamines																
% saying any	18	32.7	33.8	30.8	32.9	33.2	34.4	28.1	31.4	28.8	29.0	27.4	27.3	30.0	31.1	+1.1
	19–22	21.1	24.4	25.5	28.4	28.0	28.6	24.0	23.5	25.9	25.4	26.9	19.9	26.6	27.3	+0.7
	23–26	14.4	14.1	14.2	14.5	17.5	18.4	18.0	18.8	18.4	19.7	17.6	17.9	21.3	23.8	+2.4
	27–30	12.9	11.0	11.8	11.9	12.9	12.3	12.0	13.5	11.8	12.5	10.0	12.8	16.4	16.4	0.0
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	2.4	3.4	2.8	3.1	2.2	2.4	2.1	2.9	2.2	2.0	2.4	1.8	2.0	2.9	+0.9
	19–22	0.7	1.2	0.7	1.7	1.6	1.3	1.2	0.5	0.7	1.1	0.4	1.3	1.6	1.2	-0.4
	23–26	0.8	0.5	0.6	0.3	0.5	0.3	0.7	0.1	0.3	0.7	*	0.1	0.3	0.8	+0.5
	27–30	0.1	0.3	0.6	0.1	0.5	0.9	0.1	*	0.4	0.4	0.4	0.3	0.5	0.3	-0.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Take sedatives/barbiturates[e]																		
% saying any	18	30.5	31.1	31.3	28.3	26.6	27.1	25.6	24.3	19.7	20.3	17.4	14.8	16.4	17.8	18.2	17.8	21.6
	19–22	33.2	27.9	27.7	23.6	22.0	17.2	18.8	15.5	14.0	14.1	11.9	12.8	10.7	11.7	9.7	13.3	11.6
	23–26	—	—	—	—	22.2	18.7	16.3	14.1	11.2	10.4	8.9	8.3	8.7	8.2	7.6	9.6	6.9
	27–30	—	—	—	—	—	—	—	—	12.0	8.5	8.8	7.1	6.6	6.7	7.4	7.2	6.7
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	2.6	2.1	1.8	1.7	1.7	1.6	1.4	1.1	1.1	1.4	0.6	0.5	0.6	1.0	1.1	1.4	1.6
	19–22	1.1	1.3	1.0	0.8	0.8	0.5	0.3	0.4	0.8	0.1	0.2	0.3	0.1	0.1	0.3	0.8	0.2
	23–26	—	—	—	—	0.4	0.3	0.3	0.3	0.1	0.2	0.2	0.1	0.1	0.3	0.2	*	*
	27–30	—	—	—	—	—	—	—	—	0.2	*	0.4	0.2	0.2	0.2	*	*	0.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take quaaludes																		
% saying any	18	32.5	35.0	35.5	29.7	26.1	26.0	23.5	22.0	17.1	16.6	14.3	12.0	13.1	14.2	14.2	15.5	18.1
	19–22	38.3	36.2	35.4	30.5	24.6	19.9	20.3	16.9	12.5	10.9	10.0	10.6	9.2	10.0	7.8	11.5	10.1
	23–26	—	—	—	—	25.7	21.0	17.4	15.0	12.1	10.3	8.6	5.9	6.4	7.6	7.7	9.0	6.3
	27–30	—	—	—	—	—	—	—	—	11.8	7.9	8.2	7.0	7.1	6.5	6.6	4.5	6.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	3.6	3.6	2.6	2.6	1.7	1.3	1.6	1.0	1.0	1.3	0.8	0.5	0.8	1.1	1.1	1.3	1.7
	19–22	1.9	2.7	1.2	1.3	1.2	0.6	0.2	0.4	0.4	0.2	0.6	0.2	0.1	0.1	0.2	0.7	0.1
	23–26	—	—	—	—	0.6	0.3	0.7	0.2	0.2	0.4	0.2	0.1	0.2	0.6	0.2	0.2	*
	27–30	—	—	—	—	—	—	—	—	0.5	0.2	0.2	0.2	*	0.2	*	*	0.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take tranquilizers																		
% saying any	18	29.7	29.5	29.9	26.7	26.6	25.8	24.2	23.3	19.9	18.0	14.9	13.5	14.6	15.5	16.5	15.8	18.1
	19–22	37.5	33.9	28.7	22.9	22.0	19.7	20.6	18.0	16.4	14.8	13.4	13.0	11.3	11.9	9.5	13.6	10.5
	23–26	—	—	—	—	29.3	26.3	22.3	20.8	15.5	13.1	14.8	12.1	12.5	11.0	13.4	10.4	10.7
	27–30	—	—	—	—	—	—	—	—	20.1	16.6	16.9	14.9	12.0	12.5	13.9	11.9	11.0
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.3	12.2	13.1
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.9	1.4	1.1	1.2	1.5	1.2	1.3	1.0	0.7	1.5	0.5	0.4	0.7	0.9	0.9	1.1	1.4
	19–22	0.7	0.9	0.5	0.8	0.3	0.7	0.3	0.6	0.4	0.1	0.4	0.5	0.1	0.1	0.2	0.7	0.7
	23–26	—	—	—	—	0.4	0.3	0.5	*	0.3	0.4	0.2	0.3	0.1	0.4	0.2	*	*
	27–30	—	—	—	—	—	—	—	—	0.5	0.3	0.4	0.2	0.1	0.2	0.4	*	0.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.3	0.3
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Years cont.

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use[a] 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Take sedatives/barbiturates[e]																
% saying any	18	20.4	22.8	20.9	21.6	22.1	25.3	18.1	25.2	22.3	22.5	20.8	19.8	21.0	23.5	+2.5
	19–22	12.1	14.8	16.0	15.2	18.6	17.1	14.4	18.8	19.6	18.7	20.1	17.8	16.4	19.1	+2.6
	23–26	8.4	7.9	8.3	6.6	11.1	10.9	12.9	16.7	15.7	16.2	16.5	13.4	18.6	17.6	-0.9
	27–30	6.5	6.1	5.7	6.4	7.9	7.4	7.3	11.5	10.5	13.5	12.5	15.2	12.7	15.3	+2.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.1	2.5	1.4	1.7	1.1	1.7	1.9	2.0	1.8	1.3	1.6	1.3	1.3	1.5	+0.2
	19–22	0.7	0.4	0.4	1.0	0.9	0.8	0.7	0.3	0.3	0.2	0.6	0.5	1.0	0.6	-0.4
	23–26	0.8	*	*	0.4	0.4	*	0.2	0.4	0.2	0.5	*	0.4	0.4	0.5	+0.1
	27–30	*	*	0.2	*	0.3	0.6	0.1	*	0.5	0.4	0.6	0.1	0.9	0.4	-0.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take quaaludes																
% saying any	18	16.1	17.4	15.5	16.2	17.8	18.0	14.2	16.6	13.6	13.4	13.6	11.2	14.3	—	—
	19–22	9.3	10.6	11.4	13.1	14.6	13.0	10.3	8.3	8.2	8.6	8.8	5.9	5.3	—	—
	23–26	6.5	6.6	6.4	4.9	7.7	8.5	8.9	6.5	7.7	5.6	5.6	4.1	8.0	—	—
	27–30	4.9	4.1	5.1	5.0	4.9	6.6	4.3	4.4	3.6	4.9	4.3	5.8	4.5	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.1	2.0	1.4	1.4	1.2	1.2	1.2	1.6	1.3	1.3	1.6	0.8	1.1	—	—
	19–22	0.6	0.5	0.4	0.9	0.8	0.1	0.4	*	0.4	0.2	*	0.2	*	—	—
	23–26	0.8	*	0.2	0.3	0.3	0.1	0.2	0.1	0.2	0.3	0.3	*	0.1	—	—
	27–30	*	*	0.2	0.3	*	0.3	*	*	0.3	0.7	*	0.3	0.5	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take tranquilizers																
% saying any	18	17.9	19.7	16.4	19.4	18.6	21.2	17.2	18.3	16.9	15.3	15.5	15.0	15.8	16.1	+0.3
	19–22	11.7	13.7	16.2	16.7	21.3	18.1	14.5	12.3	11.5	13.0	17.2	11.6	11.1	11.6	+0.5
	23–26	9.6	8.5	9.8	11.2	12.4	14.9	12.9	15.1	13.1	10.7	12.3	12.6	15.5	13.4	-2.1
	27–30	10.8	12.6	10.4	10.6	9.6	10.6	10.4	9.9	9.7	8.5	9.1	12.3	10.3	9.5	-0.8
	35	10.8	10.7	11.4	10.8	12.2	12.5	11.4	12.7	12.4	12.2	14.7	16.1	14.8	17.6	+2.8
	40	—	13.7	14.8	15.2	15.1	15.6	15.0	13.6	14.1	16.1	16.0	15.0	15.1	13.6	-1.4
	45	—	—	—	—	—	—	17.3	19.8	15.4	18.3	20.7	17.3	17.5	16.3	-1.1
	50	—	—	—	—	—	—	—	—	—	—	—	19.7	21.0	17.8	-3.2
% saying most or all	18	0.8	2.3	1.3	2.1	1.3	1.6	1.5	1.7	1.6	1.2	1.8	1.2	1.5	1.4	-0.1
	19–22	0.8	0.6	0.3	0.6	0.9	0.4	0.4	0.3	0.3	0.3	0.3	0.1	0.1	0.6	+0.4
	23–26	1.1	0.1	*	0.5	0.8	0.1	*	0.5	0.7	0.4	*	0.1	0.3	0.2	0.0
	27–30	*	*	0.4	*	0.4	0.6	0.1	*	0.2	0.2	*	0.1	0.5	*	-0.5
	35	0.1	0.2	0.6	0.6	0.2	0.1	0.2	0.3	0.5	0.3	0.5	0.3	0.4	0.6	+0.2
	40	—	*	0.4	0.1	0.3	0.2	*	0.2	0.2	0.3	0.3	0.3	0.1	*	-0.1
	45	—	—	—	—	—	—	0.3	0.2	0.2	0.1	0.3	*	0.2	0.1	-0.0
	50	—	—	—	—	—	—	—	—	—	—	—	0.3	0.1	0.1	0.0

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Percentage saying friends use[a]

Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Drink alcoholic beverages																		
% saying any	18	96.1	94.7	95.7	95.5	94.6	94.6	95.6	95.4	95.7	95.1	92.0	91.2	90.5	88.9	90.1	90.9	89.6
	19–22	96.3	96.7	96.6	97.3	96.8	95.8	96.9	95.6	97.0	97.6	96.1	95.2	93.1	95.1	92.5	94.8	93.7
	23–26	—	—	—	—	96.8	96.8	96.2	95.9	95.3	95.4	94.7	93.9	95.1	94.4	94.0	94.1	92.7
	27–30	—	—	—	—	—	—	—	—	96.1	96.0	95.2	94.4	95.6	93.4	93.3	93.3	93.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	89.6	89.9	90.3
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	68.9	67.7	69.7	69.0	66.6	66.0	68.0	71.8	68.1	67.1	60.5	58.6	56.9	57.0	59.6	56.4	56.4
	19–22	76.6	77.6	75.2	75.1	74.9	71.9	74.2	71.3	73.4	74.1	70.0	71.4	67.4	66.5	68.7	63.9	67.0
	23–26	—	—	—	—	73.2	74.4	69.5	74.9	68.9	69.8	67.1	69.3	68.8	68.7	70.7	67.0	68.9
	27–30	—	—	—	—	—	—	—	—	66.7	67.8	62.0	62.7	63.3	61.3	63.2	62.6	64.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43.8	45.1	49.5
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Get drunk at least once a week																		
% saying any	18	83.1	81.8	83.1	83.9	81.5	82.5	84.7	85.6	84.4	82.8	79.2	79.8	79.9	79.2	81.4	78.9	78.5
	19–22	80.9	79.9	80.0	80.4	79.8	76.7	82.0	81.1	80.6	80.4	80.1	80.8	76.5	81.1	79.6	83.2	80.9
	23–26	—	—	—	—	73.1	72.7	73.5	73.7	72.1	73.1	72.2	74.0	73.1	74.3	72.1	73.1	74.5
	27–30	—	—	—	—	—	—	—	—	66.3	61.8	65.4	65.2	65.5	64.5	62.7	67.1	66.7
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	44.3	43.2	44.9
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	30.1	29.4	29.9	31.0	29.6	29.9	31.8	31.3	29.6	31.1	27.5	29.7	28.6	27.6	28.4	27.4	29.0
	19–22	21.9	23.3	22.0	20.2	22.7	21.7	20.8	21.3	24.0	22.6	23.6	24.9	22.6	28.8	26.3	28.2	26.0
	23–26	—	—	—	—	11.4	11.6	12.5	11.9	12.8	12.0	13.9	11.6	14.6	13.2	15.2	15.2	14.0
	27–30	—	—	—	—	—	—	—	—	5.2	6.3	6.7	6.6	5.9	6.7	6.4	7.9	8.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.6	3.6	5.4
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smoke cigarettes																		
% saying any	18	90.6	88.5	88.3	87.0	86.0	87.0	87.8	88.3	87.7	86.5	84.9	85.7	84.4	84.8	88.1	87.9	88.3
	19–22	94.4	94.3	93.4	93.1	91.9	91.6	91.1	90.3	89.3	90.0	86.1	86.1	86.7	86.7	86.1	88.8	89.2
	23–26	—	—	—	—	93.9	95.0	91.6	92.1	89.8	90.1	88.7	89.6	85.6	88.3	86.4	86.8	85.3
	27–30	—	—	—	—	—	—	—	—	92.6	89.8	90.7	90.4	88.0	85.8	84.8	84.9	85.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	72.7	71.7	71.7
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	23.3	22.4	24.1	22.4	19.2	22.8	21.5	21.0	20.2	23.1	21.4	21.8	21.4	25.0	25.3	27.5	30.4
	19–22	31.8	27.6	25.6	25.2	25.6	22.7	21.9	22.5	19.3	19.9	19.2	20.2	20.3	22.2	21.7	28.4	24.0
	23–26	—	—	—	—	25.6	22.7	19.7	18.5	16.5	20.5	16.9	18.1	16.0	15.5	16.6	13.9	17.6
	27–30	—	—	—	—	—	—	—	—	15.8	14.2	11.6	12.9	11.9	14.3	10.9	12.3	10.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.9	7.2	9.3
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Years cont.

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use[a] 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Drink alcoholic beverages																
% saying any	18	90.7	91.2	90.2	89.8	89.2	88.0	87.9	87.8	87.2	86.0	85.1	85.2	83.7	83.9	+0.1
	19–22	94.5	94.5	92.8	95.2	93.4	94.5	92.5	90.4	95.0	91.9	94.0	92.6	93.2	90.9	-2.3
	23–26	95.4	95.5	93.3	94.5	93.1	95.3	92.8	94.9	91.6	93.6	94.7	93.3	95.0	95.3	+0.4
	27–30	95.1	93.1	94.4	92.7	91.4	92.8	90.5	94.4	93.7	95.6	92.4	91.7	93.9	93.0	-0.8
	35	89.5	88.1	88.7	89.6	89.3	90.1	87.4	93.4	91.3	90.6	90.5	91.0	90.4	93.3	+2.9 s
	40	—	88.4	88.9	90.7	89.6	90.5	89.2	90.5	92.1	90.8	93.0	89.3	92.6	92.1	-0.5
	45	—	—	—	—	—	—	87.9	90.3	89.8	90.1	89.8	90.5	89.5	90.6	+1.1
	50	—	—	—	—	—	—	—	—	—	—	—	88.9	90.2	89.9	-0.3
% saying most or all	18	60.9	61.0	58.2	57.2	59.2	53.7	53.1	53.9	55.3	52.4	52.0	51.6	50.5	51.4	+0.9
	19–22	63.8	69.4	67.8	70.1	65.4	68.8	63.9	66.4	71.8	65.4	71.1	64.4	69.7	69.1	-0.6
	23–26	66.6	67.4	63.6	70.8	65.7	73.4	66.0	71.3	69.3	69.2	70.2	76.3	76.9	75.5	-1.4
	27–30	66.6	62.9	64.4	64.8	64.9	66.3	61.5	69.0	66.2	70.7	65.6	67.1	74.0	72.2	-1.9
	35	46.6	47.1	46.0	49.1	48.4	52.9	51.6	53.7	55.5	55.2	56.1	55.7	53.2	56.9	+3.6
	40	—	37.7	41.4	42.5	44.7	44.8	47.2	43.3	47.2	45.9	50.3	48.9	54.5	54.7	+0.2
	45	—	—	—	—	—	—	38.9	41.7	42.4	45.1	46.6	47.0	45.9	46.7	+0.8
	50	—	—	—	—	—	—	—	—	—	—	—	37.7	39.3	41.9	+2.5
Get drunk at least once a week																
% saying any	18	82.4	81.1	81.5	79.5	79.6	78.3	77.3	79.0	78.7	77.4	75.5	76.2	76.2	73.5	-2.7
	19–22	79.2	82.3	82.8	82.2	81.9	81.5	81.5	80.5	85.1	81.7	84.4	81.3	82.8	81.2	-1.6
	23–26	71.9	74.1	71.0	76.5	74.7	81.0	76.4	75.8	80.7	80.9	80.4	79.5	83.0	83.7	+0.7
	27–30	65.4	65.5	65.9	64.3	64.7	68.9	66.5	73.8	72.4	74.6	72.0	71.7	78.7	78.2	-0.6
	35	42.9	46.1	44.5	46.9	47.6	48.3	47.9	52.0	50.7	52.6	55.0	56.0	56.0	59.2	+3.2
	40	—	41.6	40.6	42.2	41.3	42.6	42.9	43.2	48.4	47.2	46.3	48.2	53.7	49.6	-4.1
	45	—	—	—	—	—	—	41.6	42.2	41.6	40.0	42.7	45.7	45.4	49.1	+3.7
	50	—	—	—	—	—	—	—	—	—	—	—	40.0	38.3	39.6	+1.3
% saying most or all	18	30.9	31.7	30.1	32.4	32.7	28.3	27.1	27.6	28.5	27.7	27.0	25.2	24.4	23.7	-0.8
	19–22	26.6	29.8	29.3	28.1	30.2	31.0	29.6	29.0	31.2	32.9	32.0	28.9	31.4	27.7	-3.7
	23–26	17.0	16.0	16.8	17.4	19.1	19.2	18.3	24.0	24.0	20.3	22.8	23.1	23.2	24.0	+0.8
	27–30	7.7	9.3	12.1	9.8	11.7	8.9	13.0	9.4	11.2	13.5	12.2	10.9	17.1	13.7	-3.4
	35	3.2	4.4	4.9	4.6	4.8	4.5	5.2	5.3	5.3	5.6	6.1	7.3	5.9	7.4	+1.5
	40	—	2.8	3.0	2.5	2.9	3.8	3.9	3.0	3.6	4.0	3.4	4.8	4.6	4.8	+0.1
	45	—	—	—	—	—	—	3.6	2.7	2.7	3.1	3.7	4.1	3.2	3.2	0.0
	50	—	—	—	—	—	—	—	—	—	—	—	3.2	2.7	2.0	-0.7
Smoke cigarettes																
% saying any	18	89.9	89.5	89.3	87.2	86.8	85.4	83.3	83.7	81.8	81.4	77.1	78.4	79.6	78.0	-1.7
	19–22	91.3	92.6	91.0	90.9	90.9	89.7	86.5	89.7	89.3	85.8	86.8	84.4	88.3	81.8	-6.5 s
	23–26	85.4	88.7	84.1	86.5	86.7	86.4	86.5	87.0	87.3	85.4	84.1	86.8	85.3	87.7	+2.4
	27–30	84.1	81.1	86.3	85.1	84.9	87.0	82.8	83.5	81.0	84.4	81.7	82.1	84.1	84.6	+0.4
	35	72.4	71.8	69.9	70.8	69.2	66.6	67.0	67.7	65.5	67.0	64.8	67.6	62.2	65.4	+3.2
	40	—	70.2	70.0	67.8	64.3	65.5	65.1	62.4	63.8	64.6	59.2	59.7	60.5	57.4	-3.1
	45	—	—	—	—	—	—	66.1	67.0	62.9	60.9	58.5	56.1	57.7	60.6	+2.8
	50	—	—	—	—	—	—	—	—	—	—	—	62.1	61.3	59.2	-2.1
% saying most or all	18	34.4	33.9	31.1	28.2	25.0	23.0	19.6	20.6	16.7	15.8	16.4	13.9	14.1	14.9	+0.9
	19–22	25.1	28.8	26.8	29.4	27.0	25.7	20.2	20.7	20.4	15.2	17.9	12.9	15.3	16.7	+1.4
	23–26	17.0	16.8	17.5	17.0	15.5	15.1	18.3	19.8	19.6	13.9	14.7	15.0	13.4	15.0	+1.5
	27–30	12.1	12.3	13.4	11.7	10.2	12.9	12.2	9.2	12.6	12.6	12.7	10.8	12.4	7.9	-4.5
	35	7.2	8.0	9.0	6.7	8.8	6.6	6.3	6.9	6.0	6.8	5.7	5.9	6.4	6.8	+0.4
	40	—	8.1	7.4	6.8	5.7	5.8	5.9	6.0	7.0	5.1	4.7	4.5	3.9	4.0	0.0
	45	—	—	—	—	—	—	5.7	5.9	6.1	5.4	4.5	3.7	4.8	5.2	+0.4
	50	—	—	—	—	—	—	—	—	—	—	—	4.0	4.3	4.2	-0.1

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Percentage saying friends use[a]

Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Take steroids																		
% saying any	18	—	—	—	—	—	—	—	—	—	—	25.9	24.7	21.5	19.0	18.1	19.5	17.9
	19–22	—	—	—	—	—	—	—	—	—	23.4	21.5	22.2	19.7	20.7	16.8	16.6	16.1
	23–26	—	—	—	—	—	—	—	—	—	15.3	15.0	12.3	14.5	11.1	10.5	12.4	7.3
	27–30	—	—	—	—	—	—	—	—	—	9.9	10.5	7.5	8.0	8.0	8.0	8.0	10.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	—	—	—	—	—	—	—	—	—	—	1.8	1.0	1.7	0.9	1.2	1.3	0.8
	19–22	—	—	—	—	—	—	—	—	—	0.2	0.6	*	0.1	0.4	0.2	0.1	*
	23–26	—	—	—	—	—	—	—	—	—	0.4	*	*	0.2	0.1	0.1	*	*
	27–30	—	—	—	—	—	—	—	—	—	0.5	*	*	*	0.2	0.1	*	*
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate Weighted N =	18	*2,987*	*3,307*	*3,303*	*3,095*	*2,945*	*2,971*	*2,798*	*2,948*	*2,961*	*2,587*	*2,361*	*2,339*	*2,373*	*2,410*	*2,337*	*2,379*	*2,156*
	19–22	*576*	*592*	*564*	*579*	*543*	*554*	*579*	*572*	*562*	*579*	*556*	*526*	*510*	*468*	*435*	*470*	*469*
	23–26					*527*	*534*	*546*	*528*	*528*	*506*	*510*	*507*	*516*	*495*	*449*	*456*	*416*
	27–30									*516*	*507*	*499*	*476*	*478*	*461*	*419*	*450*	*464*
	35															*1,200*	*1,187*	*1,187*
	40																	
	45																	
	50																	

Years cont.

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use[a] 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Take steroids																
% saying any	18	18.9	18.3	20.0	19.8	21.7	21.6	21.1	22.8	19.1	19.8	20.1	19.4	19.3	16.4	-2.9 s
	19–22	16.8	20.0	20.6	18.9	20.0	19.3	17.1	21.4	20.1	21.0	18.3	14.8	16.8	13.8	-3.0
	23–26	13.0	9.2	15.0	12.2	13.6	14.3	12.9	12.4	11.6	13.4	13.8	13.3	12.8	11.7	-1.1
	27–30	9.1	7.0	11.2	9.3	10.7	6.4	11.6	10.1	7.4	7.5	6.7	6.6	12.0	9.2	-2.8
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.7	1.4	0.9	1.9	1.2	1.5	1.5	2.6	1.5	0.9	1.2	1.3	1.5	1.7	+0.2
	19–22	0.1	0.3	0.1	0.3	0.7	0.7	0.4	*	0.1	0.3	0.3	0.3	*	0.7	+0.7
	23–26	0.5	*	0.1	0.3	0.2	0.1	*	0.1	0.3	0.3	*	*	0.7	*	-0.7
	27–30	*	*	*	*	*	0.3	*	*	0.1	*	*	*	0.3	*	-0.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate Weighted N =	18	*2,292*	*2,313*	*2,060*	*1,838*	*1,923*	*1,968*	*2,233*	*2,271*	*2,266*	*2,266*	*2,253*	*2,125*	*2,110*	*2,195*	
	19–22	*467*	*437*	*426*	*402*	*402*	*375*	*388*	*443*	*395*	*377*	*362*	*375*	*382*	*376*	
	23–26	*419*	*394*	*414*	*387*	*403*	*358*	*362*	*411*	*361*	*336*	*340*	*355*	*311*	*359*	
	27–30	*454*	*428*	*424*	*363*	*359*	*348*	*369*	*396*	*363*	*350*	*324*	*332*	*309*	*340*	
	35	*1,209*	*1,067*	*1,071*	*1,033*	*1,005*	*918*	*968*	*985*	*1,041*	*953*	*884*	*905*	*974*	*922*	
	40		*1,098*	*1,156*	*1,144*	*1,119*	*1,083*	*945*	*1,004*	*975*	*951*	*896*	*924*	*905*	*952*	
	45							*976*	*1,074*	*1,052*	*1,009*	*999*	*904*	*937*	*889*	
	50												*940*	*1,009*	*1,016*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. ' — ' indicates data not available. ' * ' indicates a prevalence rate of less than 0.05%.

[a]Answer alternatives were: (1) None, (2) A few, (3) Some, (4) Most, (5) All. The "any" percentage combines categories (2)–(5). The "most" or all percentage combines categories (4) and (5).

[b]These estimates were derived from responses to the questions listed above. For the young adult sample, "any illicit drug" includes all of the drugs listed except cigarettes and alcohol. For the 35-, 40-, 45-, and 50-year-olds, "any illicit drug" includes marijuana, tranquilizers, crack, cocaine powder, and "other illicit drugs."

[c]In 2001 the question text was changed from "other psychedelics" to "other hallucinogens," and "shrooms" was added to the list of examples. These changes likely explain the discontinuity in the 2001 results.

[d]In 2010 the list of examples for narcotics other than heroin was changed from "methadone, opium" to "Vicodin,OxyContin, Percocet, etc." This change likely explains the discontinuity in the 2010 results.

[e]In 2004 the question text was changed from "barbiturates" to "sedatives/barbiturates" and the list of examples was changed from "downers, goofballs, reds, yellows, etc." to just "downers." These changes likely explain the discontinuity in the 2004 results.

TABLE 7-3
Trends in Exposure to Drug Use among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?

Percentage saying exposed to drug[a]

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Any illicit drug[b]																		
% saying any	18	84.3	82.7	81.4	79.4	77.9	77.7	75.5	73.9	71.3	68.6	67.6	64.2	61.3	66.1	70.8	75.3	78.0
	19–22	80.6	81.0	81.5	76.5	76.3	77.4	74.6	72.7	69.5	61.5	60.8	58.9	58.6	58.4	60.7	66.4	67.2
	23–26	—	—	—	—	68.9	70.2	68.0	62.4	62.7	58.3	54.6	52.1	48.2	49.9	47.1	54.2	50.3
	27–30	—	—	—	—	—	—	—	—	52.4	50.2	47.0	39.6	41.7	38.9	45.6	42.4	44.9
% saying often	18	36.3	36.1	31.4	29.8	28.3	27.2	26.3	23.3	20.8	22.0	20.7	18.2	18.0	24.0	29.3	32.3	33.8
	19–22	34.6	34.0	32.1	24.4	24.4	23.7	21.1	18.9	19.9	16.2	16.4	17.6	21.4	16.1	18.1	23.7	20.4
	23–26	—	—	—	—	20.7	23.3	18.5	17.4	18.2	13.8	13.7	13.3	12.2	11.1	11.1	12.5	12.8
	27–30	—	—	—	—	—	—	—	—	13.7	12.0	10.8	8.2	10.5	9.0	12.5	8.5	10.1
Any illicit drug[b] other than marijuana																		
% saying any	18	58.5	62.6	62.5	59.4	59.8	59.3	55.3	51.7	47.8	47.1	45.4	40.0	41.6	42.6	45.3	47.2	49.7
	19–22	56.9	58.4	61.6	54.9	57.1	53.3	53.4	48.5	46.4	36.5	39.4	33.8	37.1	29.4	33.9	36.8	36.5
	23–26	—	—	—	—	51.5	51.9	51.5	43.6	42.9	36.8	34.0	30.0	27.3	27.8	24.9	26.8	23.2
	27–30	—	—	—	—	—	—	—	—	35.8	33.7	31.5	25.8	26.6	24.2	25.8	21.1	21.8
% saying often	18	14.1	17.1	16.6	14.2	14.6	12.9	12.1	10.2	9.6	10.7	9.2	7.9	7.5	9.6	9.4	11.1	12.1
	19–22	11.8	15.6	13.5	11.1	10.7	10.2	8.2	8.1	7.5	6.7	4.5	4.4	5.5	4.1	5.1	7.7	3.9
	23–26	—	—	—	—	9.0	10.4	9.3	8.5	6.7	5.0	5.1	3.5	2.6	3.0	2.2	3.5	3.4
	27–30	—	—	—	—	—	—	—	—	6.0	4.7	4.1	3.2	3.7	2.4	3.4	2.9	3.4
Marijuana																		
% saying any	18	82.0	80.2	77.9	76.2	74.4	73.5	72.0	70.4	67.0	64.8	63.4	59.6	56.8	61.0	67.2	72.7	75.6
	19–22	79.8	79.8	78.7	72.7	74.1	75.5	72.4	70.5	66.3	59.3	57.5	55.0	56.4	55.4	56.8	64.0	64.8
	23–26	—	—	—	—	65.3	66.0	64.1	59.0	57.6	55.0	50.6	47.9	44.6	45.9	44.4	51.0	47.8
	27–30	—	—	—	—	—	—	—	—	49.1	47.4	42.1	36.0	38.2	35.3	41.9	38.3	41.8
% saying often	18	33.8	33.1	28.0	26.1	24.8	24.2	24.0	20.6	17.9	19.5	17.8	16.0	15.6	20.9	27.6	30.7	31.8
	19–22	32.6	30.5	30.3	21.1	21.9	20.3	18.6	16.4	18.3	14.2	14.7	15.9	19.9	14.7	17.0	22.1	20.3
	23–26	—	—	—	—	17.5	20.6	14.6	14.8	15.6	11.6	11.2	11.6	10.9	10.4	10.4	11.1	11.5
	27–30	—	—	—	—	—	—	—	—	10.9	9.8	8.5	6.7	8.9	7.6	10.7	7.4	9.1
LSD																		
% saying any	18	17.2	17.4	16.1	13.8	12.5	13.2	13.1	12.9	13.4	15.0	14.9	15.7	17.8	21.0	24.2	26.1	27.6
	19–22	17.4	15.8	16.0	13.5	12.8	12.7	10.8	10.9	12.0	12.0	12.1	13.1	19.3	13.4	16.5	18.6	20.7
	23–26	—	—	—	—	8.3	9.3	8.8	7.3	6.3	6.7	8.4	8.6	8.8	7.8	8.4	9.9	8.6
	27–30	—	—	—	—	—	—	—	—	3.6	3.2	3.3	3.6	3.9	4.9	5.3	5.5	4.3
% saying often	18	1.4	2.0	1.9	1.4	1.5	1.3	1.6	1.8	1.6	2.2	2.6	2.9	3.0	3.9	4.2	6.1	4.7
	19–22	1.4	1.5	1.4	0.6	0.8	0.7	0.5	1.2	0.6	1.1	1.2	1.0	2.0	1.1	0.4	3.6	1.4
	23–26	—	—	—	—	0.3	0.4	0.4	0.7	0.6	0.3	0.5	0.2	0.8	0.3	0.5	0.5	0.4
	27–30	—	—	—	—	—	—	—	—	0.3	0.2	0.5	0.2	0.2	0.5	0.5	0.2	0.2
Other hallucinogens[c]																		
% saying any	18	20.4	17.6	16.8	13.1	12.7	12.5	11.8	10.0	9.0	8.8	9.4	9.4	9.7	12.1	14.0	15.8	16.6
	19–22	18.3	16.3	16.3	12.5	10.5	11.0	9.2	9.1	7.7	8.4	8.3	8.9	10.6	6.7	8.3	12.8	13.1
	23–26	—	—	—	—	8.4	8.9	9.1	6.0	5.1	4.8	5.7	5.5	5.1	5.7	5.2	5.5	6.9
	27–30	—	—	—	—	—	—	—	—	5.0	3.4	3.4	3.4	2.1	3.7	3.4	4.2	3.2
% saying often	18	2.2	2.0	2.6	1.1	1.7	1.4	1.5	1.2	1.1	1.3	1.2	1.3	1.1	1.9	2.3	2.5	2.7
	19–22	1.1	0.9	0.9	0.7	0.8	0.8	0.2	0.8	0.3	0.4	0.4	0.5	0.7	0.4	0.2	1.6	0.7
	23–26	—	—	—	—	0.1	0.3	0.5	0.6	0.8	0.1	0.4	0.4	*	0.2	0.4	0.3	0.3
	27–30	—	—	—	—	—	—	—	—	0.2	0.4	0.5	0.3	0.1	0.5	0.2	0.3	0.2

Years cont.

(Table continued on next page.)

TABLE 7-3 (cont.)
Trends in Exposure to Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?

	Age Group	Percentage saying exposed to drug[a] 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Any illicit drug[b]																
% saying any	18	78.8	77.2	77.9	76.0	76.5	76.5	73.6	74.3	73.0	73.7	70.8	71.9	74.1	76.0	+1.9
	19–22	65.3	69.1	65.8	64.7	69.7	65.7	68.0	67.6	68.8	67.1	67.4	66.2	69.8	66.0	-3.8
	23–26	55.4	50.6	50.5	55.1	56.4	56.5	57.0	53.5	53.9	56.7	58.3	56.3	57.7	56.3	-1.4
	27–30	41.6	37.5	41.1	40.8	42.2	47.0	46.7	43.3	45.7	48.4	44.1	48.7	42.5	49.3	+6.8
% saying often exposed	18	34.7	33.2	35.6	32.6	33.6	32.6	31.8	30.4	29.9	29.7	27.8	28.6	31.4	33.2	+1.8
	19–22	25.3	24.2	24.0	21.3	26.1	25.2	26.5	26.8	25.2	24.2	22.8	20.1	23.7	26.5	+2.7
	23–26	14.3	14.2	15.0	15.9	16.4	15.9	17.8	15.1	18.7	14.9	18.9	15.4	14.9	18.8	+3.8
	27–30	10.3	8.5	9.6	9.4	10.4	13.8	13.9	10.3	14.5	13.2	9.7	9.7	12.1	13.2	+1.1
Any illicit drug[b] other than marijuana																
% saying any	18	47.9	47.3	46.5	47.2	49.9	49.3	46.3	48.3	45.9	45.4	45.4	43.8	44.3	47.2	+2.9
	19–22	39.4	40.0	36.4	38.1	39.2	38.0	40.2	40.9	41.1	38.5	42.7	38.2	37.1	38.5	+1.3
	23–26	25.6	27.1	28.0	31.0	31.4	31.5	32.2	32.6	32.3	34.5	33.1	31.3	33.0	34.8	+1.8
	27–30	21.4	15.4	19.5	17.2	22.2	23.1	26.1	23.2	27.1	27.4	24.8	27.7	22.8	29.3	+6.5
% saying often exposed	18	11.7	9.9	11.7	10.5	11.9	12.6	10.8	11.4	10.6	11.4	10.8	8.2	9.4	10.2	+0.7
	19–22	7.6	7.0	4.8	6.4	7.8	8.6	5.2	7.9	8.0	6.7	6.9	6.6	6.8	6.6	-0.2
	23–26	3.1	3.1	4.3	3.5	3.4	5.0	5.4	5.4	4.0	5.4	6.7	5.4	3.8	6.4	+2.6
	27–30	3.2	1.0	2.5	1.6	3.7	4.7	4.9	2.4	5.6	4.0	3.4	2.3	3.0	4.8	+1.8
Marijuana																
% saying any	18	76.8	75.5	75.8	73.8	74.9	74.2	71.4	72.2	70.8	71.4	68.4	69.8	71.8	74.2	+2.5
	19–22	63.4	67.1	63.5	63.9	68.0	64.6	64.8	65.1	66.8	65.4	66.3	64.3	67.5	64.9	-2.5
	23–26	53.1	48.8	48.1	51.8	54.2	53.5	54.4	50.6	49.7	51.9	53.3	54.0	55.5	54.0	-1.4
	27–30	39.1	35.7	38.7	38.8	37.0	44.6	44.1	40.4	42.4	44.1	40.7	44.8	39.8	43.5	+3.6
% saying often exposed	18	32.9	31.4	34.4	30.3	30.8	30.7	30.4	28.0	27.0	27.8	25.1	27.0	29.3	31.3	+2.0
	19–22	23.7	22.8	23.0	20.4	24.5	24.8	24.2	24.5	23.6	23.1	20.1	18.3	22.6	25.2	+2.5
	23–26	12.9	13.6	13.2	15.2	15.6	14.9	16.2	13.7	17.8	12.5	16.2	13.7	13.5	17.0	+3.5
	27–30	8.9	8.1	8.8	8.6	8.4	11.7	11.7	9.6	12.2	11.5	8.2	8.5	12.3	10.8	-1.5
LSD																
% saying any	18	25.9	23.1	23.6	22.0	21.6	17.2	14.2	12.4	10.8	11.6	12.4	12.1	11.9	14.1	+2.2
	19–22	22.3	21.0	20.1	15.9	15.2	13.6	10.0	8.5	7.2	10.4	6.3	9.2	9.1	9.7	+0.6
	23–26	7.6	9.8	9.4	9.8	11.1	9.3	5.5	4.4	4.7	5.6	4.5	4.8	3.7	5.7	+1.9
	27–30	3.9	3.2	3.7	3.2	4.3	4.8	3.0	4.7	4.0	3.4	3.9	1.7	3.8	4.2	+0.4
% saying often exposed	18	5.1	3.2	4.1	3.3	2.8	2.6	1.8	1.6	1.5	1.9	1.7	0.8	1.3	1.4	0.0
	19–22	1.8	2.0	1.7	1.4	2.4	0.9	0.2	0.1	0.7	0.7	0.3	0.7	0.3	0.1	-0.2
	23–26	0.2	0.1	0.3	0.2	*	0.3	0.3	*	0.3	*	0.5	0.6	*	0.6	+0.6
	27–30	*	*	0.1	*	*	*	0.3	0.3	0.6	*	0.1	*	0.3	0.5	+0.1
Other hallucinogens[c]																
% saying any	18	17.8	15.9	17.7	16.3	28.1	26.4	25.8	24.8	24.3	23.8	23.5	23.6	22.0	25.0	+3.0
	19–22	15.0	15.0	12.4	11.8	22.8	23.4	18.9	18.7	19.5	17.8	20.2	17.5	17.5	19.6	+2.1
	23–26	5.6	8.7	5.8	8.9	14.8	14.7	11.9	10.1	11.3	10.3	9.8	9.8	9.9	12.5	+2.6
	27–30	2.9	2.6	3.0	3.0	6.4	7.7	6.3	7.9	8.8	7.8	6.8	5.2	7.5	5.0	-2.4
% saying often exposed	18	2.8	1.7	2.7	2.1	3.6	4.5	3.2	3.2	2.6	4.1	3.0	1.9	2.7	2.2	-0.5
	19–22	0.7	0.5	0.6	0.8	2.6	2.4	0.4	0.7	1.2	0.7	0.7	0.9	0.9	1.1	+0.2
	23–26	0.2	*	*	0.4	0.2	0.4	*	*	0.5	*	0.6	0.7	0.1	0.7	+0.5
	27–30	0.5	*	0.1	*	0.4	*	*	0.3	0.6	*	0.4	0.3	0.3	0.7	+0.4

↓
(List of drugs continued.)

TABLE 7-3 (cont.)
Trends in Exposure to Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?

Percentage saying exposed to drug[a]

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Cocaine																		
% saying any	18	37.7	36.3	34.9	33.3	35.6	38.3	37.4	34.9	30.2	30.2	27.7	21.3	19.8	19.2	18.8	21.6	25.0
	19–22	37.6	42.3	43.6	36.6	38.9	39.4	41.5	37.0	36.2	26.6	24.0	18.5	19.8	13.5	14.7	14.1	19.3
	23–26	—	—	—	—	38.5	40.6	42.0	34.5	35.9	28.0	24.0	19.9	16.7	14.6	14.3	14.1	12.5
	27–30	—	—	—	—	—	—	—	—	28.9	28.3	24.2	18.6	19.4	16.6	14.3	11.4	12.1
% saying often	18	5.9	6.6	6.6	5.2	6.7	7.1	7.8	5.9	5.1	5.4	4.7	3.4	2.7	2.9	2.5	3.2	4.0
	19–22	5.8	7.6	6.5	4.3	6.5	7.0	5.4	5.2	4.8	4.3	2.2	1.6	1.7	1.7	1.8	1.7	1.2
	23–26	—	—	—	—	5.3	8.5	7.0	6.0	5.4	3.5	2.5	1.7	1.4	1.7	1.0	1.7	1.3
	27–30	—	—	—	—	—	—	—	—	4.4	3.9	2.9	2.2	2.0	1.2	1.5	1.4	1.9
Heroin																		
% saying any	18	7.4	6.6	7.1	5.1	6.0	5.5	6.0	5.8	5.7	6.5	5.4	5.1	5.4	5.7	7.3	7.9	8.6
	19–22	4.4	3.3	4.1	2.9	3.1	4.8	2.9	2.9	2.9	2.9	2.5	3.0	2.7	2.0	3.7	3.8	3.6
	23–26	—	—	—	—	2.3	3.3	3.2	2.9	1.7	2.3	2.3	1.8	1.7	1.5	1.9	2.8	2.9
	27–30	—	—	—	—	—	—	—	—	2.1	1.4	1.5	0.9	1.0	2.0	2.0	1.7	1.5
% saying often	18	0.4	0.6	1.0	0.7	1.1	0.5	1.0	0.9	0.8	1.0	0.5	0.9	0.7	1.1	0.7	1.2	1.6
	19–22	0.2	0.3	0.3	0.1	0.2	0.5	0.2	0.1	0.2	0.1	0.2	0.4	0.6	0.4	0.6	1.2	0.2
	23–26	—	—	—	—	*	0.7	0.3	0.6	0.4	0.3	0.6	0.3	*	*	*	0.2	0.2
	27–30	—	—	—	—	—	—	—	—	0.3	0.3	0.5	0.2	0.2	0.9	0.3	0.6	0.6
Other narcotics[d]																		
% saying any	18	19.6	17.5	18.5	17.3	18.0	18.4	15.6	14.4	14.8	13.8	14.2	11.3	11.1	12.4	14.9	15.5	18.5
	19–22	14.4	14.4	15.2	10.9	12.4	13.7	9.8	12.2	11.2	9.0	9.4	9.2	8.5	6.8	10.1	12.1	11.5
	23–26	—	—	—	—	9.0	12.3	9.2	9.7	7.4	8.0	5.9	8.3	7.0	4.6	6.9	7.8	7.4
	27–30	—	—	—	—	—	—	—	—	6.5	6.5	5.8	5.5	3.7	5.6	5.9	5.7	4.7
% saying often	18	1.7	1.7	2.4	2.2	2.0	1.8	2.1	1.7	1.7	1.7	1.6	1.4	1.3	1.7	1.7	2.1	3.4
	19–22	0.7	0.5	0.5	0.9	0.7	1.0	0.5	0.4	0.9	0.3	0.2	1.0	0.9	0.6	0.8	1.4	0.7
	23–26	—	—	—	—	0.4	0.5	1.3	0.8	0.8	0.5	1.6	0.7	0.1	0.3	0.1	0.1	0.3
	27–30	—	—	—	—	—	—	—	—	0.7	0.5	1.0	0.3	0.8	1.2	0.8	0.8	0.7
Amphetamines																		
% saying any	18	40.8	49.5	50.2	46.1	45.0	41.0	36.5	31.7	27.9	27.4	28.3	23.6	24.5	24.7	28.2	28.1	31.5
	19–22	42.3	48.6	48.4	39.7	41.3	35.9	31.3	26.7	21.2	18.5	19.5	17.4	21.3	15.1	20.3	21.0	22.3
	23–26	—	—	—	—	32.3	30.5	29.1	20.9	18.8	14.0	16.8	14.6	11.8	13.2	11.2	13.0	11.1
	27–30	—	—	—	—	—	—	—	—	15.6	14.3	13.5	10.7	11.4	11.3	11.0	10.6	7.6
% saying often	18	8.3	12.1	12.3	10.1	9.0	6.5	5.8	4.5	4.1	4.7	4.1	3.1	3.0	3.9	4.1	4.5	5.6
	19–22	7.4	9.9	7.7	6.9	5.4	4.4	3.1	3.3	2.2	1.5	1.1	1.9	2.6	1.5	3.3	5.0	1.3
	23–26	—	—	—	—	3.9	3.2	2.2	3.3	1.9	0.7	2.0	1.3	0.2	0.8	0.9	1.6	1.3
	27–30	—	—	—	—	—	—	—	—	2.0	2.0	1.2	0.8	0.8	1.3	0.7	1.6	1.8

(Table continued on next page.)

TABLE 7-3 (cont.)
Trends in Exposure to Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?

Percentage saying exposed to drug[a]

	Age Group	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Cocaine																
% saying any	18	25.6	26.6	25.8	24.2	24.5	24.9	24.8	24.4	25.7	28.2	25.2	24.1	20.0	20.0	0.0
	19–22	18.8	21.6	18.5	19.1	20.6	22.5	18.4	23.6	22.7	22.9	22.5	22.7	18.6	17.8	-0.8
	23–26	14.0	16.0	18.2	16.4	16.9	18.3	17.4	18.7	19.2	19.3	19.0	18.2	15.3	14.7	-0.6
	27–30	11.4	8.6	11.6	10.2	11.6	12.2	12.6	13.0	15.8	16.0	14.1	14.8	13.2	11.4	-1.8
% saying often exposed	18	4.2	3.7	4.6	4.6	4.5	5.3	5.0	4.7	4.2	5.3	4.6	3.6	2.6	2.1	-0.5
	19–22	2.4	3.2	1.4	3.8	3.0	4.1	1.6	2.6	4.0	2.6	1.8	2.6	2.6	0.7	-1.9 s
	23–26	1.8	1.5	2.2	1.8	1.0	2.5	1.9	2.9	1.8	2.0	3.2	1.0	1.0	1.2	+0.2
	27–30	1.6	0.8	1.5	0.3	1.6	2.4	1.7	0.7	2.4	0.8	0.7	1.4	0.8	0.1	-0.7
Heroin																
% saying any	18	9.1	8.7	8.1	9.1	8.7	8.3	7.3	6.6	7.3	9.0	8.6	6.8	7.3	8.3	+1.0
	19–22	3.7	6.4	3.2	5.2	3.2	5.3	3.4	3.0	3.2	3.7	3.3	4.8	4.3	3.2	-1.2
	23–26	2.7	3.1	2.9	2.6	2.4	3.8	2.0	3.1	2.6	3.5	3.6	1.8	1.8	4.1	+2.2
	27–30	1.3	1.4	1.9	1.9	2.3	2.7	1.3	3.2	2.9	2.3	3.0	2.2	1.9	1.5	-0.3
% saying often exposed	18	1.2	0.9	1.3	1.5	0.7	1.3	1.2	1.2	0.8	1.7	1.1	0.8	0.8	1.0	+0.2
	19–22	0.4	0.7	0.8	0.7	0.8	0.6	0.2	*	0.8	0.1	*	0.6	*	0.4	+0.4
	23–26	0.3	0.5	1.0	*	*	0.8	0.5	0.5	0.3	0.6	0.3	*	*	1.2	+1.2 s
	27–30	*	*	0.2	*	*	0.7	0.3	*	0.4	0.3	0.4	0.3	0.6	*	-0.6
Other narcotics[d]																
% saying any	18	20.4	20.7	21.9	21.1	21.6	22.5	21.8	20.3	19.0	18.9	18.9	16.3	16.3	30.3	+14.0 sss
	19–22	14.5	15.3	13.9	17.0	18.3	18.7	13.6	14.5	16.8	15.3	12.5	13.2	14.2	27.5	+13.3 sss
	23–26	6.5	8.1	9.4	10.9	12.2	12.0	12.6	12.6	12.4	13.0	14.4	11.2	13.2	25.9	+12.6 sss
	27–30	4.9	3.6	5.2	6.5	9.0	7.9	9.5	8.8	11.6	10.6	9.2	9.1	9.7	23.4	+13.7 sss
% saying often exposed	18	2.5	2.8	3.9	2.9	3.0	3.8	3.0	3.3	2.6	3.4	3.4	2.1	2.7	5.3	+2.6 sss
	19–22	1.5	1.7	1.1	2.4	1.6	3.0	1.2	0.8	2.4	1.9	1.7	1.9	1.6	3.3	+1.7
	23–26	0.7	0.5	1.1	0.7	1.0	0.9	1.6	1.4	1.3	1.1	1.8	1.0	1.3	4.4	+3.1 s
	27–30	0.5	*	0.2	1.1	1.0	0.7	1.2	0.1	1.7	0.7	0.8	0.4	1.4	3.0	+1.6
Amphetamines																
% saying any	18	31.0	29.9	30.1	29.5	31.5	30.6	27.4	27.2	26.4	26.6	23.8	23.3	23.8	23.6	-0.3
	19–22	24.6	24.8	21.2	24.8	23.3	25.5	21.6	23.7	22.2	22.7	22.8	17.6	18.0	19.4	+1.4
	23–26	11.7	14.6	12.3	18.5	18.2	17.9	15.4	18.8	15.6	18.7	16.6	13.7	15.3	15.8	+0.5
	27–30	9.1	6.6	10.4	7.4	11.1	11.5	12.2	11.4	12.2	14.1	10.0	10.3	10.3	12.6	+2.3
% saying often exposed	18	5.2	4.7	6.3	4.4	6.0	6.4	4.9	5.3	4.1	5.6	4.3	3.0	4.3	3.3	-1.0
	19–22	4.1	2.9	2.2	2.4	2.6	5.6	1.7	4.1	3.1	2.9	2.3	2.1	3.0	3.9	+0.9
	23–26	1.4	2.2	1.7	1.4	2.2	0.7	1.3	1.7	1.6	2.6	1.6	1.8	1.1	1.6	+0.5
	27–30	1.0	0.2	1.1	0.4	0.6	1.5	1.0	1.2	1.0	0.8	1.1	0.3	0.7	0.6	-0.1

(List of drugs continued.)

TABLE 7-3 (cont.)
Trends in Exposure to Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?

Percentage saying exposed to drug[a]

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Sedatives/barbiturates[e]																		
% saying any	18	25.2	25.9	25.7	22.5	21.2	18.9	15.8	13.1	12.4	11.8	13.3	10.0	10.2	11.9	13.0	14.5	15.5
	19–22	25.6	23.1	21.8	18.3	15.7	14.7	12.8	12.0	8.2	8.3	6.5	7.9	7.3	7.2	7.4	10.1	8.8
	23–26	—	—	—	—	16.1	13.1	11.0	7.1	7.1	6.6	6.9	5.9	6.5	3.8	4.2	5.7	6.6
	27–30	—	—	—	—	—	—	—	—	8.0	6.8	5.9	5.4	5.2	5.7	4.5	5.2	3.5
% saying often	18	3.4	4.0	4.3	3.0	2.7	1.7	2.1	1.5	1.4	1.7	1.7	1.2	1.1	1.6	1.7	2.0	2.9
	19–22	2.5	2.8	1.1	1.4	0.7	1.3	0.5	0.7	0.7	0.3	0.7	0.4	0.7	0.7	1.3	1.3	0.4
	23–26	—	—	—	—	0.7	0.9	1.7	0.8	0.6	0.3	1.1	0.3	0.3	*	*	0.2	0.3
	27–30	—	—	—	—	—	—	—	—	0.7	0.4	0.6	0.2	0.4	1.2	0.2	0.6	0.5
Tranquilizers[f]																		
% saying any	18	29.1	29.0	26.6	23.5	23.1	23.4	19.6	18.4	18.2	15.1	16.3	14.2	12.7	13.8	16.5	15.7	17.9
	19–22	29.6	26.9	28.5	19.5	21.2	19.5	16.4	18.5	13.8	12.0	12.7	12.6	11.0	10.0	12.0	11.8	10.7
	23–26	—	—	—	—	23.1	21.0	16.9	15.9	13.4	12.9	12.0	10.4	9.7	10.9	9.8	10.3	10.1
	27–30	—	—	—	—	—	—	—	—	15.0	11.6	11.1	9.7	10.3	10.4	9.0	11.2	9.6
% saying often	18	3.2	4.2	3.5	2.9	2.9	2.2	2.5	2.6	2.2	2.1	1.9	1.4	1.9	1.7	1.8	2.3	3.5
	19–22	3.2	2.6	1.8	2.1	1.5	1.7	0.9	1.1	1.8	1.0	1.1	1.1	1.5	1.1	1.3	1.5	0.5
	23–26	—	—	—	—	2.0	1.6	2.6	1.8	1.2	0.8	0.5	1.0	0.6	0.7	0.1	1.1	1.5
	27–30	—	—	—	—	—	—	—	—	1.4	0.3	1.7	0.8	1.3	1.3	1.0	1.1	0.8
Alcoholic beverages																		
% saying any	18	94.7	94.0	94.0	94.0	94.0	94.0	94.1	93.9	93.1	92.3	93.6	91.7	90.6	91.8	90.0	91.2	91.5
	19–22	94.3	93.8	94.5	93.4	94.2	92.7	93.6	94.4	92.5	91.8	92.4	94.0	93.3	92.9	93.7	93.1	93.7
	23–26	—	—	—	—	90.3	92.7	91.4	90.6	91.1	92.9	91.3	91.0	91.4	90.3	89.5	91.9	89.6
	27–30	—	—	—	—	—	—	—	—	87.1	88.4	86.2	87.7	87.3	86.6	86.2	89.3	89.2
% saying often	18	60.2	61.0	59.3	60.2	58.7	59.5	58.0	58.7	56.4	55.5	56.1	54.5	53.1	51.9	54.0	54.0	54.5
	19–22	59.6	61.2	62.5	56.6	59.3	61.8	59.9	61.4	55.4	53.8	56.0	53.9	56.1	56.8	57.0	56.3	52.3
	23–26	—	—	—	—	52.1	54.8	51.4	53.0	48.1	50.9	49.7	48.4	45.4	45.4	43.3	47.5	44.8
	27–30	—	—	—	—	—	—	—	—	39.9	39.5	38.7	38.0	39.9	38.1	39.3	38.0	34.7
Approximate	18	*3,259*	*3,608*	*3,645*	*3,334*	*3,238*	*3,252*	*3,078*	*3,296*	*3,300*	*2,795*	*2,556*	*2,525*	*2,630*	*2,730*	*2,581*	*2,608*	*2,407*
Weighted N =	19–22	*582*	*574*	*601*	*569*	*578*	*549*	*591*	*582*	*556*	*567*	*567*	*532*	*528*	*489*	*460*	*464*	*485*
	23–26					*533*	*532*	*557*	*529*	*531*	*514*	*523*	*494*	*532*	*513*	*471*	*467*	*447*
	27–30									*522*	*507*	*506*	*478*	*502*	*457*	*425*	*452*	*432*

(Table continued on next page.)

TABLE 7-3 (cont.)
Trends in Exposure to Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?

Percentage saying exposed to drug[a]

	Age Group	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Sedatives/barbiturates[e]																
% saying any	18	16.1	16.1	17.1	16.3	17.1	17.7	14.8	21.5	20.4	21.3	18.8	16.7	17.6	18.8	+1.1
	19–22	11.7	13.4	11.6	13.1	13.1	16.0	11.9	17.2	17.8	16.0	16.1	15.2	17.3	16.1	-1.2
	23–26	4.9	8.5	7.1	9.3	9.0	9.8	7.9	15.9	12.5	14.8	13.1	12.4	12.7	13.4	+0.7
	27–30	3.8	2.7	4.1	2.9	5.3	6.0	6.1	9.2	12.4	11.9	10.3	10.1	9.9	11.6	+1.7
% saying often exposed	18	2.5	2.7	3.8	2.7	2.7	4.6	2.8	4.1	3.7	3.9	3.9	2.1	3.4	2.5	-0.9
	19–22	0.9	1.4	0.9	1.6	1.2	1.8	0.8	1.7	2.1	2.5	1.4	2.2	1.9	0.9	-0.9
	23–26	0.8	0.5	0.9	0.7	0.2	0.3	0.4	0.7	1.1	1.1	1.6	1.7	0.7	1.0	+0.3
	27–30	0.2	*	0.6	0.2	0.9	0.4	0.6	0.4	1.7	0.7	1.3	0.4	1.7	0.9	-0.8
Tranquilizers[f]																
% saying any	18	18.9	17.3	18.2	17.7	23.8	22.7	21.0	22.1	20.9	21.8	19.3	19.9	20.0	18.2	-1.8
	19–22	15.6	16.9	14.3	18.5	21.3	23.6	20.0	21.9	20.6	23.1	21.4	20.0	19.6	18.1	-1.5
	23–26	9.4	10.9	10.8	12.3	16.4	20.1	18.7	19.9	20.1	19.9	18.8	18.4	17.5	21.4	+3.8
	27–30	9.6	6.1	8.8	7.6	12.6	13.6	15.3	14.6	18.1	19.2	16.7	16.8	13.5	18.6	+5.2
% saying often exposed	18	3.2	2.8	3.7	3.5	4.9	5.8	4.2	4.1	4.5	5.4	4.9	3.7	3.9	2.8	-1.1
	19–22	1.3	1.6	1.5	1.7	3.1	3.6	2.3	2.7	2.7	3.2	3.0	3.2	2.1	1.7	-0.4
	23–26	0.7	1.1	1.5	1.7	1.3	2.1	1.6	2.0	1.3	2.6	2.4	3.6	1.5	3.2	+1.6
	27–30	1.2	0.2	0.9	0.4	1.6	1.6	1.9	0.8	3.5	2.9	2.6	1.0	2.0	1.7	-0.3
Alcoholic beverages																
% saying any	18	91.4	92.2	91.8	90.7	90.8	89.5	88.3	87.6	87.4	87.6	86.5	85.7	86.5	85.2	-1.3
	19–22	93.1	91.8	91.0	93.3	94.3	93.7	93.6	92.5	92.7	92.0	91.8	90.5	91.2	86.5	-4.6 s
	23–26	93.1	89.1	91.5	92.1	90.1	91.9	91.8	92.2	90.0	94.0	94.5	92.0	93.0	91.1	-1.9
	27–30	86.4	88.4	88.7	89.8	91.2	89.0	90.0	85.3	92.2	91.8	89.6	94.4	91.0	91.2	+0.3
% saying often exposed	18	53.9	54.5	53.5	50.2	52.7	50.8	49.0	48.2	49.1	47.8	46.4	45.4	46.3	45.8	-0.5
	19–22	54.2	57.9	54.7	54.3	53.4	54.9	55.7	54.3	58.9	55.0	60.7	53.9	53.4	48.5	-5.0
	23–26	49.8	44.6	45.7	49.6	48.8	46.3	50.5	48.3	46.4	57.1	54.2	49.6	53.8	51.3	-2.5
	27–30	37.1	36.6	38.3	34.4	40.0	39.6	40.6	36.8	43.6	47.3	44.3	47.8	45.2	43.0	-2.2
Approximate Weighted N =	18	*2,595*	*2,541*	*2,312*	*2,153*	*2,147*	*2,162*	*2,454*	*2,456*	*2,469*	*2,469*	*2,448*	*2,332*	*2,274*	*2,434*	
	19–22	*471*	*445*	*450*	*415*	*412*	*403*	*396*	*432*	*377*	*378*	*333*	*365*	*368*	*364*	
	23–26	*424*	*400*	*398*	*389*	*406*	*345*	*385*	*404*	*374*	*363*	*327*	*333*	*328*	*347*	
	27–30	*455*	*449*	*430*	*395*	*369*	*359*	*347*	*370*	*370*	*330*	*356*	*339*	*324*	*336*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.
' * ' indicates a prevalence rate of less than 0.05%.

[a]Answer alternatives were: (1) Not at all, (2) Once or twice, (3) Occasionally, (4) Often. The "any" percentage combines categories (2)–(4).

[b]These estimates were derived from responses to the question for the following drugs: marijuana, LSD, other hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), and tranquilizers.

[c]In 2001 the question text was changed from "other psychedelics" to "other hallucinogens," and "shrooms" was added to the list of examples. These changes likely explain the discontinuity in the 2001 results.

[d]In 2010 the list of examples for narcotics other than heroin was changed from "methadone, opium" to "Vicodin,OxyContin, Percocet, etc." This change likely explains the discontinuity in the 2010 results.

[e]In 2004 the question text was changed from "barbiturates" to "sedatives/barbiturates" and the list of examples was changed from "downers, goofballs, reds, yellows, etc." to just "downers." These changes likely explain the discontinuity in the 2004 results.

[f]In 2001 Xanax was added to the list of examples. This change likely explains the discontinuity in the 2001 results.

TABLE 7-4
Trends in Availability of Drugs as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Percentage saying "fairly easy" or "very easy" to get[a]

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Marijuana	18	89.0	89.2	88.5	86.2	84.6	85.5	85.2	84.8	85.0	84.3	84.4	83.3	82.7	83.0	85.5	88.5	88.7
	19–22	95.6	91.1	92.4	89.7	88.3	89.5	87.2	85.9	87.1	87.1	86.2	86.0	87.8	85.6	87.2	87.9	89.3
	23–26	—	—	—	—	92.5	88.8	88.8	90.3	86.9	88.7	83.3	82.5	83.8	84.6	87.1	86.2	85.3
	27–30	—	—	—	—	—	—	—	—	89.3	86.0	83.1	83.8	80.7	82.8	80.3	83.3	82.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75.7	75.6	73.0
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amyl & butyl nitrites	18	—	—	—	—	—	—	—	23.9	25.9	26.8	24.4	22.7	25.9	25.9	26.7	26.0	23.9
	19–22	—	—	—	—	—	—	—	22.8	26.0	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	23.1	28.0	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	26.7	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LSD	18	35.3	35.0	34.2	30.9	30.6	30.5	28.5	31.4	33.3	38.3	40.7	39.5	44.5	49.2	50.8	53.8	51.3
	19–22	39.6	38.4	35.1	31.8	32.7	29.6	30.5	29.9	33.9	36.4	36.6	37.8	42.5	44.9	43.7	50.5	50.8
	23–26	—	—	—	—	32.7	29.1	30.0	27.5	32.7	32.6	30.2	32.8	33.5	33.4	40.1	41.0	43.6
	27–30	—	—	—	—	—	—	—	—	29.4	29.9	32.3	27.0	30.9	30.5	27.2	35.6	33.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	32.4	28.4
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other hallucinogens[b]	18	35.0	32.7	30.6	26.6	26.6	26.1	24.9	25.0	26.2	28.2	28.3	28.0	29.9	33.5	33.8	35.8	33.9
	19–22	42.1	37.7	33.5	31.0	28.9	28.7	26.3	27.5	28.7	28.1	28.9	26.6	28.3	29.5	28.6	31.5	31.5
	23–26	—	—	—	—	31.8	29.6	26.4	25.6	29.6	28.7	27.0	25.7	27.7	25.3	28.3	29.2	32.6
	27–30	—	—	—	—	—	—	—	—	28.6	29.6	30.8	24.9	24.8	25.4	24.7	29.3	25.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PCP	18	—	—	—	—	—	—	—	22.8	24.9	28.9	27.7	27.6	31.7	31.7	31.4	31.0	30.5
	19–22	—	—	—	—	—	—	—	21.7	24.6	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	21.2	27.6	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	24.3	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ecstasy (MDMA)	18	—	—	—	—	—	—	—	—	—	21.7	22.0	22.1	24.2	28.1	31.2	34.2	36.9
	19–22	—	—	—	—	—	—	—	—	—	—	26.6	24.9	27.1	23.9	27.0	29.3	33.4
	23–26	—	—	—	—	—	—	—	—	—	—	21.4	23.1	26.4	24.0	26.0	27.8	28.7
	27–30	—	—	—	—	—	—	—	—	—	—	27.1	20.8	22.2	22.8	21.9	27.1	29.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Years cont.

(Table continued on next page.)

TABLE 7-4 (cont.)
Trends in Availability of Drugs as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	Percentage saying "fairly easy" or "very easy" to get[a]														2009–2010 change
		1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	
Marijuana	18	89.6	90.4	88.9	88.5	88.5	87.2	87.1	85.8	85.6	84.9	83.9	83.9	81.1	82.1	+1.0
	19–22	90.6	89.9	87.4	89.6	91.7	88.1	87.7	87.3	88.0	86.8	88.4	87.5	83.0	84.2	+1.2
	23–26	84.4	87.5	85.9	88.4	87.0	89.1	87.2	88.8	87.0	86.8	87.6	85.3	89.4	83.3	-6.1 s
	27–30	84.5	82.1	83.0	81.5	84.8	83.6	81.8	86.0	84.6	87.6	87.8	86.4	88.9	84.6	-4.3
	35	77.1	76.0	74.9	77.1	75.3	76.5	75.1	75.6	73.8	75.1	75.5	76.4	75.7	75.6	-0.1
	40	—	73.4	71.7	73.1	70.4	72.1	72.3	68.9	73.6	69.7	71.2	72.5	72.9	73.6	+0.7
	45	—	—	—	—	—	—	68.5	69.9	70.1	67.9	70.1	68.1	67.9	73.4	+5.5 s
	50	—	—	—	—	—	—	—	—	—	—	—	64.4	65.8	67.9	+2.1
Amyl & butyl nitrites	18	23.8	25.1	21.4	23.3	22.5	22.3	19.7	20.0	19.7	18.4	18.1	16.9	15.7	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LSD	18	50.7	48.8	44.7	46.9	44.7	39.6	33.6	33.1	28.6	29.0	28.7	28.5	26.3	25.1	-1.2
	19–22	47.7	51.1	43.8	47.1	42.5	37.9	34.1	30.3	27.7	29.0	23.0	19.7	24.2	26.1	+1.9
	23–26	39.2	40.4	41.2	40.4	38.3	37.2	34.1	38.5	26.5	30.3	25.2	24.1	26.1	24.2	-1.9
	27–30	35.2	32.9	35.7	35.6	38.3	32.3	33.5	30.0	29.3	29.7	26.8	28.1	22.5	25.2	+2.7
	35	32.9	31.2	27.7	32.2	28.7	29.1	29.8	25.6	24.0	28.7	26.6	26.4	26.9	25.5	-0.9
	40	—	31.1	31.0	28.5	25.7	27.4	25.0	24.4	24.3	23.9	21.5	25.1	22.2	23.3	-1.8
	45	—	—	—	—	—	—	24.2	27.0	25.4	23.7	23.6	21.1	19.4	23.6	+2.5
	50	—	—	—	—	—	—	—	—	—	—	—	19.0	21.9	18.6	-0.4
Other hallucinogens[b]	18	33.9	35.1	29.5	34.5	48.5	47.7	47.2	49.4	45.0	43.9	43.7	42.8	40.5	39.5	-1.0
	19–22	33.4	34.1	31.1	33.4	45.9	48.8	45.1	46.9	48.5	41.9	39.3	34.7	38.1	39.1	+1.0
	23–26	31.0	32.4	31.5	28.5	38.3	39.7	39.2	44.4	39.2	41.5	36.8	39.3	39.2	32.3	-7.0
	27–30	28.0	25.2	30.3	25.0	38.6	33.3	35.6	31.2	30.8	32.1	30.0	36.2	32.0	34.7	+2.7
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PCP	18	30.0	30.7	26.7	28.8	27.2	25.8	21.9	24.2	23.2	23.1	21.0	20.6	19.2	18.5	-0.8
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ecstasy (MDMA)	18	38.8	38.2	40.1	51.4	61.5	59.1	57.5	47.9	40.3	40.3	40.9	41.9	35.1	36.4	+1.3
	19–22	35.6	39.4	43.2	49.9	55.5	59.7	52.1	45.8	43.5	41.2	38.4	34.7	37.1	30.4	-6.6
	23–26	31.1	30.1	34.9	41.8	51.5	52.9	49.3	51.3	46.4	44.6	42.2	41.5	36.8	35.2	-1.6
	27–30	24.3	26.4	30.0	35.5	40.6	41.2	41.0	41.1	38.0	40.5	40.7	42.2	38.0	31.2	-6.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

↓
(List of drugs continued.)

TABLE 7-4 (cont.)
Trends in Availability of Drugs as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Percentage saying "fairly easy" or "very easy" to get[a]

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Cocaine	18	47.9	47.5	47.4	43.1	45.0	48.9	51.5	54.2	55.0	58.7	54.5	51.0	52.7	48.5	46.6	47.7	48.1
	19–22	55.7	56.2	57.1	55.2	56.2	56.9	60.4	65.0	64.9	66.8	61.7	54.3	54.5	49.2	49.9	49.4	44.4
	23–26	—	—	—	—	63.7	67.2	65.8	69.0	71.7	70.0	65.6	58.0	61.1	53.8	54.4	54.7	50.2
	27–30	—	—	—	—	—	—	—	—	68.6	68.2	64.0	60.0	63.1	56.8	53.1	57.0	53.0
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crack	18	—	—	—	—	—	—	—	41.1	42.1	47.0	42.4	39.9	43.5	43.6	40.5	41.9	40.7
	19–22	—	—	—	—	—	—	—	41.9	47.3	47.2	46.9	42.1	42.1	38.4	41.6	40.7	32.9
	23–26	—	—	—	—	—	—	—	44.5	53.0	49.9	46.9	42.0	42.6	42.5	42.4	42.3	37.9
	27–30	—	—	—	—	—	—	—	—	46.5	46.8	46.8	43.1	45.2	45.8	41.1	44.7	39.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	49.6	48.2	43.1
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine powder	18	—	—	—	—	—	—	—	52.9	50.3	53.7	49.0	46.0	48.0	45.4	43.7	43.8	44.4
	19–22	—	—	—	—	—	—	—	58.7	60.2	61.7	56.5	52.5	48.9	45.7	47.8	45.5	41.3
	23–26	—	—	—	—	—	—	—	64.9	69.1	60.1	58.6	53.2	56.4	50.5	49.7	49.6	45.9
	27–30	—	—	—	—	—	—	—	—	63.5	62.8	57.9	55.8	56.8	55.0	48.9	52.9	48.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53.9	52.1	46.7
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heroin	18	21.2	19.2	20.8	19.3	19.9	21.0	22.0	23.7	28.0	31.4	31.9	30.6	34.9	33.7	34.1	35.1	32.2
	19–22	18.9	19.4	19.3	16.4	17.2	20.8	21.2	24.4	28.5	31.6	30.7	25.3	30.2	30.0	33.2	35.2	29.1
	23–26	—	—	—	—	18.6	18.1	21.0	22.3	28.4	31.2	28.1	25.6	25.7	25.7	29.2	29.3	32.3
	27–30	—	—	—	—	—	—	—	—	23.6	27.4	29.5	22.1	25.6	28.5	24.4	30.7	29.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Some other narcotic[c]	18	29.4	29.6	30.4	30.0	32.1	33.1	32.2	33.0	35.8	38.3	38.1	34.6	37.1	37.5	38.0	39.8	40.0
	19–22	32.7	32.4	30.8	31.0	28.7	34.3	32.6	33.8	37.9	37.9	35.6	35.4	35.2	33.5	35.1	38.7	37.3
	23–26	—	—	—	—	32.8	32.1	33.6	32.2	35.9	36.4	34.7	33.2	33.9	33.1	35.8	32.6	36.7
	27–30	—	—	—	—	—	—	—	—	31.6	36.2	36.1	29.0	31.8	33.0	34.8	36.9	37.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines	18	61.3	69.5	70.8	68.5	68.2	66.4	64.3	64.5	63.9	64.3	59.7	57.3	58.8	61.5	62.0	62.8	59.4
	19–22	71.7	72.6	73.5	69.7	69.1	69.1	63.1	61.8	61.3	62.2	57.7	58.3	56.3	56.0	56.6	60.3	56.9
	23–26	—	—	—	—	65.8	66.0	64.5	65.3	62.2	60.1	55.8	54.8	54.5	52.6	52.9	56.0	52.8
	27–30	—	—	—	—	—	—	—	—	54.3	58.6	55.3	54.4	50.4	52.9	48.3	53.7	51.7
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	45.6	43.5	39.1
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Years cont.

(Table continued on next page.)

TABLE 7-4 (cont.)
Trends in Availability of Drugs as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Percentage saying "fairly easy" or "very easy" to get[a]

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
Cocaine	18	48.5	51.3	47.6	47.8	46.2	44.6	43.3	47.8	44.7	46.5	47.1	42.4	39.4	35.5	-3.9	s
	19–22	49.7	47.7	52.6	52.1	49.6	47.6	46.7	47.0	50.0	47.4	47.3	44.0	38.5	37.2	-1.3	
	23–26	46.9	51.8	45.7	45.0	44.6	47.8	40.8	50.7	48.4	51.2	47.4	45.5	44.0	41.1	-2.9	
	27–30	50.4	46.9	50.0	44.6	45.5	46.3	42.9	38.0	43.1	43.2	45.8	50.6	43.6	40.8	-2.8	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Crack	18	40.6	43.8	41.1	42.6	40.2	38.5	35.3	39.2	39.3	38.8	37.5	35.2	31.9	26.1	-5.9	sss
	19–22	39.9	40.0	40.8	40.2	37.3	35.7	37.5	33.7	34.0	35.2	35.7	31.4	27.3	27.2	-0.1	
	23–26	37.2	38.4	35.0	31.9	37.1	33.9	32.8	36.5	35.1	34.0	31.4	33.1	27.4	27.1	-0.3	
	27–30	36.5	33.3	38.8	35.9	36.9	33.4	33.7	28.0	34.4	29.6	36.4	36.1	33.1	27.5	-5.7	
	35	44.3	45.0	41.6	45.0	41.2	38.9	40.5	36.1	34.2	37.1	35.1	33.2	31.6	30.0	-1.6	
	40	—	43.3	44.3	42.0	38.7	39.5	39.0	35.8	38.6	37.1	32.7	35.2	33.2	30.9	-2.3	
	45	—	—	—	—	—	—	37.0	40.0	40.6	36.2	37.0	34.2	31.7	36.2	+4.5	s
	50	—	—	—	—	—	—	—	—	—	—	—	32.8	36.3	32.4	-4.0	
Cocaine powder	18	43.3	45.7	43.7	44.6	40.7	40.2	37.4	41.7	41.6	42.5	41.2	38.9	33.9	29.0	-4.9	ss
	19–22	46.0	47.1	45.2	45.2	43.3	43.9	45.5	43.2	44.3	44.2	44.5	39.0	36.1	35.6	-0.6	
	23–26	43.6	44.4	44.3	41.8	44.4	40.7	43.4	48.5	45.1	46.4	45.0	41.4	41.6	40.3	-1.3	
	27–30	45.1	43.9	46.5	43.9	42.7	42.4	39.7	37.9	40.2	42.7	43.0	47.5	41.3	38.2	-3.1	
	35	48.3	47.0	43.4	47.9	43.1	41.7	42.0	39.6	35.8	39.5	37.4	38.6	34.9	35.5	+0.7	
	40	—	46.0	46.7	44.7	41.5	41.5	40.7	38.5	40.3	37.8	35.2	36.5	33.9	33.5	-0.5	
	45	—	—	—	—	—	—	39.0	40.2	40.6	37.3	38.2	34.1	31.5	37.2	+5.7	s
	50	—	—	—	—	—	—	—	—	—	—	—	32.6	35.9	32.8	-3.1	
Heroin	18	33.8	35.6	32.1	33.5	32.3	29.0	27.9	29.6	27.3	27.4	29.7	25.4	27.4	24.1	-3.3	s
	19–22	31.4	32.1	32.7	29.4	30.2	26.4	26.9	22.6	25.4	25.3	26.5	24.2	19.4	22.0	+2.7	
	23–26	30.5	35.1	31.9	25.7	26.6	27.2	25.5	30.9	22.5	28.1	22.2	23.4	23.4	23.1	-0.3	
	27–30	30.0	28.3	33.0	29.3	29.9	27.0	27.5	22.0	27.8	25.4	27.5	26.3	25.2	25.2	+0.1	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Some other narcotic[c]	18	38.9	42.8	40.8	43.9	40.5	44.0	39.3	40.2	39.2	39.6	37.3	34.9	36.1	54.2	+18.1	sss
	19–22	38.3	38.9	39.5	41.1	44.1	40.4	40.6	39.4	41.4	38.5	38.3	38.0	35.3	55.2	+20.0	sss
	23–26	35.7	39.9	38.2	38.1	35.8	40.0	40.3	47.7	44.7	45.5	41.7	41.2	42.5	56.2	+13.7	sss
	27–30	35.2	32.2	36.9	32.4	39.4	38.5	38.9	35.8	37.7	39.8	41.3	39.4	43.5	62.3	+18.8	sss
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Amphetamines	18	59.8	60.8	58.1	57.1	57.1	57.4	55.0	55.4	51.2	52.9	49.6	47.9	47.1	44.1	-3.0	
	19–22	55.5	56.3	57.6	60.2	56.5	53.7	55.1	53.9	56.9	52.3	55.8	49.5	49.8	43.6	-6.2	
	23–26	51.2	53.2	49.1	51.1	49.4	48.2	50.3	51.8	51.9	58.0	53.7	46.9	51.0	45.5	-5.5	
	27–30	48.1	41.4	48.2	47.6	49.3	45.6	48.7	43.9	45.3	49.2	48.1	45.0	51.1	46.4	-4.7	
	35	40.9	39.4	38.5	42.2	39.6	39.2	39.2	35.4	35.4	40.3	40.4	40.6	39.2	37.1	-2.0	
	40	—	41.0	41.9	39.4	37.5	39.4	38.7	37.9	41.1	38.4	37.6	39.2	37.2	37.0	-0.2	
	45	—	—	—	—	—	—	35.8	39.8	39.3	37.1	38.3	36.8	33.0	39.8	+6.9	ss
	50	—	—	—	—	—	—	—	—	—	—	—	32.8	38.0	34.4	-3.6	

(List of drugs continued.)

TABLE 7-4 (cont.)
Trends in Availability of Drugs as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	Percentage saying "fairly easy" or "very easy" to get[a]																
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Crystal meth. (ice)	18	—	—	—	—	—	—	—	—	—	—	24.0	24.3	26.0	26.6	25.6	27.0	26.9
	19–22	—	—	—	—	—	—	—	—	—	—	24.0	21.8	22.5	20.9	24.7	25.5	25.4
	23–26	—	—	—	—	—	—	—	—	—	—	22.3	20.0	21.3	22.9	24.5	24.7	24.7
	27–30	—	—	—	—	—	—	—	—	—	—	27.3	19.7	22.0	21.2	21.7	25.8	26.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sedatives/ barbiturates[d]	18	49.1	54.9	55.2	52.5	51.9	51.3	48.3	48.2	47.8	48.4	45.9	42.4	44.0	44.5	43.3	42.3	41.4
	19–22	59.5	61.1	56.8	54.2	48.1	52.7	46.8	44.6	45.5	47.7	44.2	41.7	43.4	41.9	40.6	42.9	41.1
	23–26	—	—	—	—	52.7	47.7	46.4	45.9	47.4	44.8	41.6	39.6	42.0	38.8	40.3	42.1	40.6
	27–30	—	—	—	—	—	—	—	—	43.2	44.5	44.2	38.5	37.8	39.7	37.4	39.9	41.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers	18	59.1	60.8	58.9	55.3	54.5	54.7	51.2	48.6	49.1	45.3	44.7	40.8	40.9	41.1	39.2	37.8	36.0
	19–22	67.4	62.8	62.0	62.3	52.5	55.6	52.9	50.3	50.0	49.4	45.4	44.8	40.7	40.9	41.0	40.2	37.6
	23–26	—	—	—	—	60.2	54.3	54.1	56.3	52.8	51.4	47.8	45.1	48.1	43.2	45.9	44.3	42.3
	27–30	—	—	—	—	—	—	—	—	55.3	54.4	54.9	47.5	47.8	47.4	44.4	44.8	46.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	18	—	—	—	—	—	—	—	—	—	—	—	46.7	46.8	44.8	42.9	45.5	40.3
	19–22	—	—	—	—	—	—	—	—	—	—	44.1	44.8	46.3	41.7	40.9	41.8	40.8
	23–26	—	—	—	—	—	—	—	—	—	—	37.6	35.8	39.3	35.8	37.0	37.4	33.9
	27–30	—	—	—	—	—	—	—	—	—	—	36.4	30.6	35.0	31.6	30.5	33.1	35.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate Weighted N =	18	*3,240*	*3,578*	*3,602*	*3,385*	*3,269*	*3,274*	*3,077*	*3,271*	*3,231*	*2,806*	*2,549*	*2,476*	*2,586*	*2,670*	*2,526*	*2,552*	*2,340*
	19–22	*582*	*601*	*582*	*588*	*559*	*571*	*592*	*581*	*568*	*572*	*571*	*534*	*512*	*480*	*459*	*470*	*467*
	23–26					*540*	*541*	*548*	*539*	*526*	*514*	*532*	*511*	*523*	*500*	*463*	*449*	*418*
	27–30									*519*	*513*	*510*	*487*	*475*	*473*	*437*	*446*	*468*
	35															*1,142*	*1,141*	*1,146*
	40																	
	45																	
	50																	

Years cont.

(Table continued on next page.)

TABLE 7-4 (cont.)
Trends in Availability of Drugs as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, and 50

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	Percentage saying "fairly easy" or "very easy" to get[a] 1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Crystal meth. (ice)	18	27.6	29.8	27.6	27.8	28.3	28.3	26.1	26.7	27.2	26.7	25.1	23.3	22.3	18.3	-3.9 s
	19–22	29.3	31.0	31.8	27.4	28.4	31.2	26.5	27.1	28.9	29.1	27.7	24.1	19.2	19.3	+0.1
	23–26	25.8	30.2	28.5	25.8	26.4	25.1	26.4	32.3	27.8	32.3	27.8	27.7	23.1	26.1	+3.0
	27–30	25.1	22.6	29.1	25.3	27.6	29.5	30.9	25.5	27.4	31.8	29.7	31.4	27.7	27.6	-0.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sedatives/ barbiturates[d]	18	40.0	40.7	37.9	37.4	35.7	36.6	35.3	46.3	44.4	43.8	41.7	38.8	37.9	36.8	-1.1
	19–22	39.8	39.2	42.3	40.6	39.3	40.8	38.4	43.8	47.8	42.6	47.5	43.2	42.6	39.6	-3.0
	23–26	39.1	42.6	39.7	37.6	36.1	36.4	37.8	49.4	48.4	51.4	46.5	43.3	47.7	40.4	-7.3
	27–30	39.1	33.9	38.4	36.1	38.1	34.8	35.6	40.5	42.9	43.3	46.4	44.7	48.5	43.1	-5.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers	18	35.4	36.2	32.7	33.8	33.1	32.9	29.8	30.1	25.7	24.4	23.6	22.4	21.2	18.4	-2.8
	19–22	37.8	36.8	37.1	36.5	34.9	34.6	34.2	29.7	30.1	22.8	28.5	23.3	18.3	20.2	+2.0
	23–26	36.4	39.4	38.3	37.6	38.7	33.7	32.5	36.6	32.9	33.0	31.7	30.3	27.7	21.8	-5.9
	27–30	41.9	39.9	41.5	36.7	42.9	38.1	35.9	30.6	33.5	32.1	32.4	33.1	30.1	30.6	+0.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	18	41.7	44.5	44.6	44.8	44.4	45.5	40.7	42.6	39.7	41.1	40.1	35.2	30.3	27.3	-3.0
	19–22	39.2	39.2	40.5	40.3	38.1	41.4	39.4	37.8	37.6	37.1	37.9	33.5	28.7	25.1	-3.7
	23–26	35.5	34.9	37.1	34.0	34.7	33.1	31.1	34.7	31.2	34.2	33.3	30.2	28.6	22.2	-6.4
	27–30	32.5	30.5	34.5	36.2	34.6	33.0	32.6	30.6	32.4	29.7	30.9	31.0	31.9	27.6	-4.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate Weighted N =	18	*2,517*	*2,520*	*2,215*	*2,095*	*1,850*	*2,138*	*2,391*	*2,169*	*2,161*	*2,161*	*2,420*	*2,276*	*2,243*	*2,395*	
	19–22	*463*	*433*	*425*	*400*	*398*	*375*	*386*	*441*	*392*	*376*	*362*	*380*	*377*	*377*	
	23–26	*419*	*395*	*415*	*388*	*401*	*362*	*356*	*411*	*359*	*335*	*338*	*355*	*312*	*358*	
	27–30	*459*	*425*	*424*	*365*	*357*	*349*	*368*	*393*	*359*	*347*	*324*	*334*	*305*	*340*	
	35	*1,150*	*1,032*	*1,022*	*981*	*977*	*890*	*934*	*963*	*1,009*	*925*	*863*	*898*	*952*	*895*	
	40		*1,029*	*1,093*	*1,096*	*1,065*	*1,037*	*898*	*967*	*928*	*919*	*868*	*881*	*870*	*911*	
	45							*911*	*1,026*	*1,005*	*972*	*954*	*851*	*888*	*846*	
	50												*902*	*975*	*989*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.
' — ' indicates data not available.

[a]Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

[b]In 2001 the question text was changed from "other psychedelics" to "other hallucinogens," and "shrooms" was added to the list of examples. These changes likely explain the discontinuity in the 2001 results.

[c]In 2010 the list of examples for narcotics other than heroin was changed from "methadone, opium" to "Vicodin,OxyContin, Percocet, etc." This change likely explains the discontinuity in the 2010 results.

[d]In 2004 the question text was changed from "barbiturates" to "sedatives/barbiturates" and the list of examples was changed from "downers, goofballs, reds, yellows, etc." to just "downers." These changes likely explain the discontinuity in the 2004 results.

Chapter 8

PREVALENCE OF DRUG USE AMONG COLLEGE STUDENTS

One of the more important functions of the Monitoring the Future (MTF) study has been to track various forms of substance use among the nation's college students, in part because they have often been the harbingers of social and political changes that eventually spread to other segments of the population up and down the age spectrum. This was certainly true for the epidemic of illicit drug use that emerged in the late 1960s.

Definition of college students. *College students are defined here as those follow-up respondents one to four years past high school who say they were registered as full-time students in a two- or four-year undergraduate college at the beginning of March in the year in question.* Note that students at two-year colleges, such as community colleges, are included. The definition excludes those who are currently enrolled in college part-time and those who previously may have been college students or may have completed college. MTF has been able to generate an unparalleled national sample of college students every year since 1980 by following representative samples of high school classes after they graduate. The graduating class of 1976 was the first such class followed after graduation, and by 1980 the survey included college students one to four years post–high school. The 2010 results mark the 31st year in which we have surveyed a nationally representative sample of college students, and the results from all 31 surveys are presented in Chapter 9. In this chapter we focus on students who were in college in 2010.

The absence of dropouts in the original high school senior samples has practically no effect on the representativeness of these college samples, as very few dropouts go on to college. One notable limitation of the present design for the purpose of characterizing college students is that it limits the age range of the college sample. For trend estimation purposes, we decided to limit the age band to the most typical one for college attendance, that is, one to four years past high school, which corresponds to modal ages 19 to 22. According to the latest statistics available from the United States Census Bureau,[61] this age band should encompass about 71% of all undergraduate college students enrolled full-time in 2009, down some from the 79% covered in 1989. Although expanding the age band to include an additional two years would cover 81% of all enrolled college students, it would also reduce by two years the interval over which we could report trend data. Some special analyses conducted in 1985 indicated that the differences in *prevalence-of-use* estimates under the two definitions were extremely small. The annual prevalence of all drugs except cocaine shifted only about one or two tenths of a percentage point. Cocaine, which had the greatest amount of age-related change at that time, would have had an annual prevalence rate only 0.8 percentage points higher using the six-year age span. A replication of these analyses in 1997 yielded virtually the same results. Thus, for purposes of

[61] U.S. Census Bureau, October 2009. Available at: http://www.census.gov/.

estimating all prevalence rates except lifetime prevalence, the four- and six-year intervals are nearly interchangeable, suggesting that this limitation is negligible for our purposes.

On the positive side, maintaining a consistent age band allows for trend estimation by controlling for changes in the age composition of college students over the years. Otherwise, college students characterized in one year might represent a noncomparable segment of the larger population when compared to college students surveyed in another year.

The MTF panels also include high school graduates one to four years past high school who are not attending college. Having statistics for both groups, a unique feature of MTF, makes it possible to compare college students' substance use rates with those of their age peers. The college-enrolled sample now constitutes well over half (63%) of the entire follow-up sample one to four years past high school. If data from the missing high school dropout segment were available for inclusion as part of the noncollege segment, any difference between the two groups in terms of their substance use would likely be enlarged; therefore, any differences observed here are only an indication of the direction and relative size of differences between the college and the *entire* noncollege population, not an absolute estimate of them.

PREVALENCE OF DRUG USE AMONG COLLEGE STUDENTS VERSUS THEIR NONCOLLEGE PEERS

In 2010, prevalence of use for nearly all illicit drugs among college students is *lower* compared with use among their age peers, but the degree of difference varies considerably by drug, as Tables 8-1 through 8-4 show.

- ***Amphetamines*** were the one exception. Annual prevalence of amphetamine use among college students was 9.0% in 2010, compared to 7.9% in the noncollege group. ***Adderall*** use (Table 8-2) was somewhat higher among college students (9.0%) than among noncollege respondents (7.1%), as was the case last year. The higher use by college students is very likely because this amphetamine drug, which is intended for the treatment of attention-deficit hyperactivity disorder (ADHD), is sometimes used by students to stay awake and alert in order to complete course work and to study for exams. The other ADHD drug covered, ***Ritalin***, has about an equivalent, but much lower, rate in the two groups at 1.9% college and 2.0% noncollege annual prevalence.

- In 2010, annual prevalence of use of ***any illicit drug*** was only slightly higher among noncollege respondents than among college students (36% vs. 35%) but there was a larger difference for ***any illicit drug other than marijuana*** (21% vs. 17%, respectively).

- Annual ***marijuana*** prevalence is very similar for college (33%) and noncollege respondents (32%). The rate of current ***daily marijuana*** use, however, is considerably lower among college students (4.4% vs. 7.7%, see Table 8-4.)

- It is clear that use of a number of ***illicit drugs other than marijuana*** tends to be distinctly higher among those not in college. (As previously noted, such differences would likely be

still larger if the noncollege group included high school dropouts.) In fact, several drugs show annual use rates for noncollege respondents that are two or more times those for college students, including ***crack cocaine***, ***heroin***, ***heroin with a needle***, ***Vicodin***, ***methamphetamine***, ***GHB***, ***Provigil***, ***Ketamine***, and ***steroids.***

- In 2010, significant proportions of both the noncollege group (11.2%) and college students (7.2%) reported use of ***narcotics other than heroin*** without medical supervision in the past year. With respect to two specific drugs in this class, ***OxyContin*** was used by 2.3% of college students and 4.0% of the noncollege group, and the corresponding numbers for ***Vicodin*** were 4.9% and 9.9%.

- ***Provigil***, added to the study in 2009, is a stay-awake prescription drug prescribed for people with narcolepsy or involved in shift work, for example. It showed a negligible annual prevalence among college students (<0.05%), and a relatively low annual prevalence among the noncollege group (1.7%).

- In 2010, college students were modestly higher in lifetime, annual, and 30-day use of ***alcohol*** than the noncollege group; the difference was largest in the 30-day rate (65% vs. 55%).

- College students had a higher prevalence of ***occasions of heavy drinking*** (five or more drinks in a row in the past two weeks)—37% versus 28% among their age peers. *Indeed, nearly half of all college students (44%) report having* ***been drunk*** *in the prior 30 days, compared to 29% of the noncollege respondents*. The groups were similar to each other in rates of ***daily drinking,*** at 3.6% versus 3.4% (Table 8-4). In high school, college-bound students, especially in earlier grades, were far less likely to drink alcohol at any level compared to their non-college-bound peers; thus, the relative and absolute increases in alcohol use among college students in the first few years following high school are quite striking.

- Because of increasing attention paid to the problem of ***extreme binge drinking***, in 2005 we introduced a set of questions on the subject into one of the six questionnaire forms used with young adults, including college students. The questions ask respondents about the frequency in the past two weeks of their having (a) four or more drinks in a row, (b) five or more drinks in a row, (c) 10 or more drinks in a row, and (d) 15 or more drinks in a row. The low *N*s resulting from a single questionnaire form necessitate combining six years of data (2005–2010), and even then only 1,300 weighted cases are available from the college student population and 759 for their noncollege peers. However, they give us an idea of the prevalence and frequency of these levels of drinking.

  About one in eight college students (13%) reported having ***10 or more drinks in a row*** at least once in the prior two weeks, and one in twenty (5%) reported ***15 or more drinks in a row***. The noncollege respondents had about the same rates (12% and 5%, respectively). While we lack earlier data on these measures to determine whether this type of extreme drinking behavior has changed over time, clearly it is quite high today among both

college students and their noncollege age peers. As is discussed below, there is a dramatic gender difference in the prevalence of these behaviors.

- In 2010, 60% of college students reported using ***flavored alcoholic beverages*** in the prior year, compared to 52% for the noncollege group.

- Among all substances studied, the largest differences for 30-day and daily prevalence rates between the two groups occur for ***cigarette smoking***. For example, the prevalence of daily smoking for college students is 8% versus 23% for noncollege respondents (Table 8-4). Smoking at the rate of a half pack or more per day stands at 4% versus 15% for these two groups, respectively. Recall that the 12th-grade data show the college-bound have much lower smoking rates in high school than do the non-college-bound; thus, in contrast to what was true for alcohol use, these substantial differences observed at college age actually preceded college attendance.[62] The smoking differences would be even greater if dropouts were included in the noncollege group, because dropouts have consistently shown an exceptionally high rate of smoking.[63]

In sum, the noncollege segment is generally more drug-involved than the college student segment. This pattern is a continuation of the high school scenario in which those without college plans are more likely to use drugs. The only substance for which college students are appreciably more likely to be users is ***alcohol*** (particularly ***getting drunk*** and ***binge drinking***). ***Adderall*** is also somewhat more likely to be used by college students. In both cases, the differences emerge after high school.

GENDER DIFFERENCES IN PREVALENCE OF USE AMONG COLLEGE STUDENTS

Data stratified by gender are provided in Tables 8-1 to 8-4.

- Most gender differences among college students replicate those discussed in chapter 4 for all young adults 1 to 12 years past high school, and they in turn replicate gender differences among secondary school students. That means that among college students, males have higher annual prevalence rates for most illicit drugs.

- Among college students, annual prevalence rates are 40% for males versus 32% for females for use of ***any illicit drug***, 20% versus 15% for ***any illicit drug other than marijuana***, and 39% versus 29% for ***marijuana.*** In all three cases, the gender differences are smaller among the noncollege group. For example, annual prevalence for marijuana use among male noncollege respondents is 33% compared to 31% for females.

[62]See also Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities.* Mahwah, NJ: Lawrence Erlbaum Associates.

[63]For a recent analysis showing much higher smoking rates among 8th graders who later dropped out before completing high school, see Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education–drug use connection: How successes and failures in school relate to adolescent smoking, drug use, and delinquency.* New York: Lawrence Erlbaum Associates/Taylor & Francis.

- Similarly, ***daily marijuana*** use is substantially higher among male college students compared to female college students (6.7% vs. 2.8%), but the proportional difference is smaller for the noncollege group, with 9.6% of males reporting daily use versus 6.2% of females.

- Most ***hallucinogens,*** including ***salvia***, show distinctly higher annual prevalence rates among male versus female college students. Among the noncollege respondents the differences are in the same direction, but smaller.

- Among college students the gender difference in annual prevalence of use for the narcotic drug ***Vicodin*** is modest, 5.6% for males versus 4.4% for females.

- Among college students annual use of ***narcotics other than heroin*** is higher for males (8.5%) than for females (6.3%), while among noncollege students it is slightly higher for females (11.7%) than for males (10.6%). The specific narcotic ***Vicodin*** shows a similar pattern. ***OxyContin*** use, however, has equivalent and much lower rates (2.2% and 2.3%) among college students, while in the noncollege group males (6.1%) have a higher rate than females (2.3%).

- Annual ***amphetamine*** use is higher among college males (11.6%) than college females (7.4%), but roughly equivalent between the genders in the noncollege segment (7.9% for males and (8.0%) for females.

- Annual ***Ritalin*** use among college students is a bit higher among males (2.8%) than among females (1.3%), as is also true in the noncollege segment (2.3% vs. 1.9%, respectively).

- The annual prevalence for ***Adderall*** use outside of medical supervision is considerably higher among male college students (one in every nine college males, or 11.2%) than female college students (7.5%), and use is slightly higher among males in the noncollege segment (7.4% vs. 6.9%, respectively).

- College males report a slightly higher prevalence of ***getting drunk*** in the prior 30 days than college females (47% vs. 41%, respectively); noncollege respondents also have higher rates for males (36%) than for females (25%). Both male and female college students have higher rates of ***binge drinking*** than their counterparts not in college (32% for college females vs. 21% for noncollege females and 44% vs. 36% for males, respectively; see Table 8-4).

- More ***extreme levels of binge drinking*** show a large gender difference in both groups. Among college students, the prevalence of having ***10 or more drinks in a row*** in the prior two weeks was 7% for college females versus 24% for college males for the years 2005–2010 combined; roughly similar rates were reported by noncollege respondents—8% for females and 19% for males. The prevalence of having ***15 or more drinks in a row*** was 1.7% for college females versus 10% for college males; again, similar rates were reported by noncollege respondents—2.1% for females and 9.7% for males.

- ***Flavored alcoholic beverages*** are consumed by more females than males, regardless of whether they attend college (61% of females vs. 59% of males in college reporting past-year use, and 58% vs. 46%, respectively, for the noncollege group).

- Among college students, 30-day prevalence of ***cigarette smoking*** is higher for males (20%) than for females (14%), and the same holds true in the noncollege segment (33% and 26%, respectively). ***Daily smoking*** is reported by a slightly higher proportion of males than females in the college segment (8.7% vs. 6.9%), as is true in the noncollege segment (25% for males and 21% for females). Rates of ***smoking a half pack or more per day*** are 4.4% and 3.5% for males and females among college students, compared with 16% and 15% for the noncollege segment.

In sum, male college students tend to use most substances, licit and illicit, more than their female counterparts, with the greatest proportional differences occurring for various hallucinogens. College males are also more frequent users of alcohol and marijuana and more likely to use ***Adderall*** outside of medical supervision.

TABLE 8-1
Lifetime Prevalence of Use for Various Types of Drugs, 2010: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School, by Gender

(Entries are percentages.)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug[a]	49.1	56.7	53.5	54.3	46.2	58.6
Any Illicit Drug[a] other than Marijuana	24.8	34.1	27.8	36.7	22.8	32.1
Marijuana	46.8	54.5	51.9	51.4	43.5	56.8
Inhalants[b]	5.5	8.2	8.5	8.4	3.5	8.0
Hallucinogens	7.8	14.0	10.8	18.0	5.8	10.9
LSD	4.0	6.7	5.7	8.5	2.9	5.3
Hallucinogens other than LSD	7.1	12.7	9.8	16.5	5.4	9.7
Ecstasy (MDMA)[b]	6.2	15.3	8.0	16.4	5.1	14.4
Cocaine	6.6	11.6	8.3	14.5	5.4	9.4
Crack[c]	1.2	3.9	1.3	4.0	1.1	3.8
Other Cocaine[d]	6.7	10.4	9.1	12.0	5.2	9.1
Heroin	0.7	1.9	0.9	2.3	0.5	1.6
With a Needle[e]	0.1	1.3	*	2.5	0.2	0.3
Without a Needle[e]	0.4	1.8	*	3.2	0.7	0.7
Narcotics other than Heroin[f]	12.2	18.7	14.0	18.7	11.0	18.8
Amphetamines, Adjusted[f,g]	12.1	15.7	15.1	17.5	10.2	14.3
Methamphetamine[e]	1.1	3.8	2.4	4.3	0.3	3.4
Crystal Methamphetamine (Ice)[e]	0.8	1.6	0.5	0.8	0.9	2.1
Sedatives (Barbiturates)[f]	5.3	9.9	5.6	10.4	5.1	9.4
Tranquilizers[f]	8.1	14.4	9.2	14.2	7.4	14.7
Alcohol	82.3	78.1	83.9	76.1	81.3	79.7
Been Drunk[b]	70.5	65.4	72.7	63.9	69.2	66.5
Flavored Alcoholic Beverages[h]	77.4	69.8	73.7	57.6	80.0	80.5
Cigarettes	—	—	—	—	—	—
Steroids[e]	0.7	3.7	1.1	8.6	0.5	0.3
Approximate Weighted N =	*1,260*	*730*	*500*	*320*	*760*	*410*

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

' — ' indicates data not available.

Footnotes on next page.

Footnotes for Tables 8-1 through 8-4

[a]Use of "any illicit drug" includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.

[b]This drug was asked about in three of the six questionnaire forms. Total *N* in 2010 for college students is approximately 630.

[c]This drug was asked about in five of the six questionnaire forms. Total *N* in 2010 for college students is approximately 1,050.

[d]This drug was asked about in four of the six questionnaire forms. Total *N* in 2010 for college students is approximately 840.

[e]This drug was asked about in two of the six questionnaire forms. Total *N* in 2010 for college students is approximately 420.

[f]Only drug use that was not under a doctor's orders is included here.

[g]Based on the data from the revised question, which attempts to exclude inappropriate reporting of nonprescription amphetamines.

[h]This drug was asked about in one of the six questionnaire forms. Total *N* in 2010 for college students is approximately 210.

[i]Daily use is defined as use on 20 or more occasions in the past 30 days except for cigarettes, measured as actual daily use, and 5+ drinks, measured as having five or more drinks in a row in the last two weeks.

TABLE 8-2
Annual Prevalence of Use for Various Types of Drugs, 2010: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School, by Gender

(Entries are percentages.)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug[a]	35.0	35.8	40.3	35.7	31.6	35.8
Any Illicit Drug[a] other than Marijuana	17.1	21.0	20.3	22.4	15.1	20.0
Marijuana	32.7	31.9	39.0	33.2	28.5	30.9
Inhalants[b]	1.7	2.5	2.9	2.8	0.9	2.3
Hallucinogens	4.9	5.8	7.3	8.2	3.4	4.0
LSD	2.1	1.8	2.7	2.2	1.7	1.4
Hallucinogens other than LSD	4.4	5.4	6.6	7.5	2.9	3.7
Ecstasy (MDMA)[b]	4.3	6.2	5.3	7.7	3.6	5.0
Salvia[h]	3.6	5.5	7.3	9.7	1.1	2.7
Cocaine	3.5	4.9	4.3	6.0	3.0	4.0
Crack[c]	0.4	0.9	0.6	0.5	0.3	1.2
Other Cocaine[d]	4.0	4.0	5.1	3.6	3.3	4.3
Heroin	0.2	0.7	0.3	0.6	0.2	0.8
With a Needle[e]	*	0.2	*	0.4	*	*
Without a Needle[e]	0.3	0.4	*	0.4	0.5	0.4
Narcotics other than Heroin[f]	7.2	11.2	8.5	10.6	6.3	11.7
OxyContin[e,f]	2.3	4.0	2.2	6.1	2.3	2.3
Vicodin[e,f]	4.9	9.9	5.6	9.3	4.4	10.4
Amphetamines, Adjusted[f,g]	9.0	7.9	11.6	7.9	7.4	8.0
Ritalin[e,f]	1.9	2.0	2.8	2.3	1.3	1.9
Adderall[e,f]	9.0	7.1	11.2	7.4	7.5	6.9
Provigil[e,f]	*	1.7	*	2.9	*	0.7
Methamphetamine[e]	0.4	1.1	1.2	0.7	*	1.3
Crystal Methamphetamine (Ice)[e]	0.5	0.7	0.2	0.3	0.7	0.9
Sedatives (Barbiturates)[f]	2.5	4.9	2.7	4.9	2.4	5.0
Tranquilizers[f]	4.9	7.6	5.8	7.9	4.3	7.4
GHB[e]	0.1	1.2	*	1.9	0.2	0.7
Ketamine[e]	0.7	2.0	0.2	3.6	1.0	0.7
Alcohol	78.6	71.8	80.8	71.5	77.1	72.1
Been Drunk[b]	63.8	52.9	69.7	51.2	60.2	54.1
Flavored Alcoholic Beverages[h]	60.3	52.4	58.7	45.8	61.4	58.3
Cigarettes	28.1	39.9	32.8	41.4	25.1	38.8
Steroids[e]	0.3	2.7	0.5	6.6	0.1	*
Approximate Weighted N =	*1,260*	*730*	*500*	*320*	*760*	*410*

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' * ' indicates a prevalence rate of less than 0.05%.
See relevant footnotes at the end of Table 8-1.

TABLE 8-3
Thirty-Day Prevalence of Use for Various Types of Drugs, 2010: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School, by Gender

(Entries are percentages.)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug[a]	19.2	21.9	25.9	24.2	15.0	20.1
Any Illicit Drug[a] other than Marijuana	8.1	10.1	10.4	10.5	6.7	9.7
Marijuana	17.5	18.9	24.1	22.1	13.2	16.5
Inhalants[b]	0.5	0.1	0.9	0.3	0.2	*
Hallucinogens	1.4	1.0	1.9	1.8	1.2	0.3
LSD	0.7	0.3	0.6	0.5	0.7	0.1
Hallucinogens other than LSD	1.2	0.7	1.5	1.3	0.9	0.3
Ecstasy (MDMA)[b]	1.0	1.6	1.6	1.7	0.6	1.6
Cocaine	1.0	1.4	1.6	1.8	0.5	1.1
Crack[c]	0.1	0.2	0.2	*	0.1	0.4
Other Cocaine[d]	1.0	1.4	2.0	1.6	0.5	1.3
Heroin	*	0.2	*	0.1	*	0.2
Narcotics other than Heroin[f]	2.3	5.4	3.3	5.6	1.7	5.3
Amphetamines, Adjusted[f,g]	4.1	3.3	5.2	3.3	3.4	3.3
Crystal Methamphetamine (Ice)[e]	0.2	0.3	*	0.3	0.4	0.3
Sedatives (Barbiturates)[f]	0.6	1.6	0.3	1.2	0.7	1.8
Tranquilizers[f]	1.3	2.2	1.6	1.9	1.2	2.5
Alcohol	65.0	54.8	67.8	58.9	63.1	51.7
Been Drunk[b]	43.6	29.4	47.1	36.4	41.4	24.5
Flavored Alcoholic Beverages[h]	31.5	25.5	34.0	28.9	29.7	22.4
Cigarettes	16.4	29.2	19.8	33.1	14.2	26.2
Approximate Weighted N =	*1,260*	*730*	*500*	*320*	*760*	*410*

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

See relevant footnotes at the end of Table 8-1.

TABLE 8-4
Thirty-Day Prevalence of Daily[1] Use for Various Types of Drugs, 2010: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School, by Gender

(Entries are percentages.)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Marijuana	4.4	7.7	6.7	9.6	2.8	6.2
Cocaine	*	0.1	*	*	*	0.1
Amphetamines, Adjusted[f,g]	*	*	*	*	*	0.1
Alcohol						
Daily	3.6	3.4	5.6	5.5	2.3	1.8
5+ Drinks in a Row in Last 2 Weeks	37.0	27.8	44.3	36.4	32.2	21.1
Cigarettes						
Daily	7.6	22.6	8.7	24.8	6.9	20.9
1/2 Pack+/Day	3.9	15.0	4.4	15.6	3.5	14.5
Approximate Weighted N =	*1,260*	*730*	*500*	*320*	*760*	*410*

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' * ' indicates a prevalence rate of less than 0.05%.
See relevant footnotes at the end of Table 8-1.

Chapter 9

TRENDS IN DRUG USE AMONG COLLEGE STUDENTS

In recent years college students and high school seniors have shown simultaneous increases in marijuana use as well as in the index of any illicit drug use. This secular trend is different from prior trends in which drug use increases among college students either preceded or followed those among younger students. During the 1960–70s epidemic, illicit drug use increased dramatically among U.S. college students, then spread quickly to their noncollege age peers and eventually down the age spectrum to high school and even middle school students. The diffusion process seems to have reversed during the subsequent "relapse" in the 1990s, when use increased first among those in early adolescence and then radiated *up* the age spectrum as those cohorts grew older (a cohort effect). Use subsequently declined among adolescents; this decline, like the preceding increase, radiated up the age spectrum.

Again, we define college students as:

- high school graduates
- one to four years past high school
- who are enrolled full-time in a two-year or four-year college
- at the beginning of March in the year in question

For comparison purposes, trend data are provided on the remaining follow-up respondents in this age band, who are also one to four years past high school (Figures 9-1 through 9-15c). Because the proportion of an age group in college declines steadily with the number of years beyond high school, this comparison group is slightly older on average than the college-enrolled group.

The proportion of young adult high school graduates one to four years beyond high school who attend college full-time has increased considerably since the MTF follow-ups began. In 2010, about 63% of the weighted number of follow-up respondents one to four years past high school met our definition of college students, compared with only 38% in the 1980 survey. This means, among other things, that the size of our college student sample has risen over the years and, conversely, the size of the noncollege sample of the same age has diminished.

The reader is reminded that the difference between the college group and the noncollege group provides an estimate of the degree to which college students' usage levels for various substances are above or below other *high school graduates* in this age band. Were we able to include the

high school dropout segment in the calculation for the noncollege group, many of the differences with the college-enrolled would be accentuated.[64]

For each year, there are approximately 1,100–1,500 weighted respondents constituting the college student sample (see Table 9-5 for *N*s per year) and roughly 700–1,700 respondents constituting the noncollege group one to four years beyond high school. Trend comparisons for these two groups are provided in this chapter. The reported results begin with 1980, the first year that enough follow-up surveys had accrued to characterize young people one to four years past high school. That makes the 2010 survey the 31st in the annual series on college students.

Throughout much of the chapter, trends for the 12th-grade samples are included for comparison purposes. It is important to keep in mind that the total 12th-grade samples are shown, and that there are substantial differences in rates of substance use within those samples between the college-bound and those who do not plan to complete college. As shown extensively in *Volume I,* 12th-grade students expecting to complete college are far less likely to smoke cigarettes, and also less likely to use most other substances. So when considering figures that show higher rates of use among all 12th graders (regardless of college expectations) than among college students, it should not be concluded that usage declined after college entrance; instead, this reflects the fact that the college-bound were already lower in usage rates than other 12th graders.

One additional point relevant to interpreting differences over time for those attending college and those not attending college, both in terms of the differences between them and trends over time for either taken separately: the proportion of college students who are female has risen substantially since 1980. In 1980, females constituted about 50% of our college respondents, but by 2010 they constituted 61%. Females thus constituted a declining proportion of the noncollege group. As will be discussed below, we have charted the trends separately for male and female college students to permit an assessment of what effect these changing proportions may have had on the overall rates observed for college students.

TRENDS IN PREVALENCE, 1980–2010: COLLEGE STUDENTS VERSUS THOSE NOT ENROLLED IN COLLEGE

- The proportion of college students using ***any illicit drug*** has continued to rise somewhat since 2006, driven primarily by an increase in marijuana use. During the first decade of reportable MTF college student data, between 1980 and 1991, college use of any illicit drug dropped fairly steadily—from 56% to 29%, a decrease of nearly half (Table 9-2 and Figure 9-1). After 1991, annual (and also 30-day) prevalence held fairly steady for a couple of years before beginning to rise, reaching 38% in 1998 and again in 2001—still well below the 1980 peak. There was not a great deal of change after 2004 (36%), with an annual prevalence rate of 35% in 2010. The noncollege group moved similarly until 2000, when they exhibited a four-percentage-point increase due largely to their sharper

[64]Panel analyses of samples from the high school classes of 1995–1997, followed for an eight-year period beginning when they were in 8th grade, clearly show that those who dropped out of high school had distinctly higher rates of substance use both before and after they left school. See Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education–drug use connection: How successes and failures in school relate to adolescent smoking, drinking, drug use, and delinquency*. New York: Lawrence Erlbaum Associates/Taylor & Francis.

increases in marijuana, amphetamine, and tranquilizer use; their level remained above the college student sector for several years, until they showed a similar-sized decline in 2007, just about eliminating the gap. Twelfth graders also showed a parallel trajectory to the other two groups in the decline phase through 1991, followed by a steeper increase in use through 1997, and then leveling after 1998. Use among high school seniors declined some since 1999 (by about six percentage points), whereas among college students there has been little decline. As a result, all three groups had quite similar prevalence rates by 2007 and thereafter. We believe the divergence among the three groups and subsequent convergence of college students and high school seniors, at least, reflect cohort effects. Since 2007 (2006 for college students) all three groups have shown some increase in the annual prevalence of any illicit drug use—due largely to a turnaround in their use of marijuana, as described below.

- Use of ***any illicit drug other than marijuana*** among college students has risen for the past two years, after a downward trend observable from 2005 to 2008. From1980 to 1994, use of any illicit drug other than marijuana declined appreciably among college students, with their annual prevalence dropping by nearly two thirds from 32% to 12% (Table 9-2). This generally paralleled the trends for the noncollege group and the 12th graders. All three groups showed some increase in use during the early 1990s; however, the rise in use of illicit drugs other than marijuana was again not as sharp among college students as it was in the other two groups, and it began two years later than among the 12th graders and one year later than among the noncollege group (Figure 9-2). After 1999, use among 12th graders leveled off, whereas the college students and noncollege segment showed a continuing increase. In fact, the college students and noncollege respondents continued to show an increase in their annual prevalence rate from 1998 through 2004, before declining from 2005 through 2007 among the noncollege group and from 2005 through 2008 among the college students. Since 2008 the rate has increased among the college students and held steady in the noncollege group at a level well above that observed among either college students or 12th graders. College students and 12th graders now have comparable prevalence rates, following more than a decade in which the 12th graders had higher rates. Again, this divergence and then convergence most likely reflect cohort effects working their way up the age spectrum. Of the three groups, the noncollege group has shown the highest rates of using illicit drugs other than marijuana since 2000. All three groups have shown some recent interruption in their downward trends.

  Trends during the 1980s for most individual classes of illicit drugs tended to be similar among the three groups. During the 1990s there was more divergence, with college students usually showing later and lesser increases than 12th graders, and, for some drugs, less increase than their noncollege peers.

- The annual prevalence of ***marijuana*** use among college students stayed level in 2010, following a four-year period of some increase. From 1981 through 1991, annual prevalence of marijuana use dropped by nearly half from 51% to 27% among college students (Figure 9-3a). Their noncollege peers showed a comparable decline over the same time interval, as did the 12th graders; and the annual prevalence rates for both

groups were comparable across that interval. Use among 12th graders rose sharply after 1992, while use among college students and noncollege respondents rose more gradually. From 1991 through 1998, annual prevalence rose by 14 percentage points among 12th graders, compared to 10 percentage points among college students and 7 percentage points among the noncollege group. As a result, the 12th graders came to exhibit the highest rate of marijuana use in the last half of the 1990s. The 12th graders were the first to show a leveling off in marijuana use (in 1998), followed by the college students in 1999 and the noncollege group in 2002. All three groups had very similar rates of use by 2005 after some decline. The college students and high school seniors both showed some decline in 2006; after that there was some increase in their marijuana use from 2006 through 2009 in the case of the college students and through 2010 among the 12th graders, indicating the end of the gradual improvement in marijuana use seen earlier in the decade. Annual prevalence held steady at 33% in 2010 among college students.

- ***Daily marijuana*** use among college students (Figure 9-3b) has remained fairly steady over the last decade. It fell appreciably between 1980 and 1986, from 7.2% to 2.1%, as it did for noncollege respondents and 12th graders. After 1986, the decline decelerated, and by 1991 the rate stood at 1.8% among college students. Thus the proportion of American college students who smoked marijuana on a daily basis dropped by about three fourths between 1980 and 1991. Daily use remained level through 1994 and then increased, reaching 4.6% in 2000; it has remained about the same since then, fluctuating between 3.5% and 5%. The daily rate was 4.9% in 2009 and 4.4% in 2010. The other two groups showed considerably larger increases after 1993, with 12th graders' daily use rates leveling after 2000, declining after 2004, leveling for a couple of years, and then rising significantly in 2010 to 6.1%. The noncollege segment showed further increase in 2001, reaching 9.4%. Their use stood at 7.7% in 2010, down some but still well above the rate for college students or high school students. Of the three groups, the college students have had the lowest rate of daily marijuana use throughout the MTF study, and the noncollege segment usually the highest. As is often the case, these subgroup differences have narrowed during overall declines in use and widened during periods of increasing use.

- ***Amphetamine*** use among college students (Figure 9-11) in 2010 is up more than three percentage points since 2008. The 1980s saw a considerable decline of annual prevalence among college students, from 22% in 1981 to 4% in 1991. Proportionately, this was a larger drop than among 12th graders, but fairly parallel to the overall change among the noncollege group. Amphetamine use among college students and their noncollege age peers began to increase in both groups after 1992 and 1993, respectively, through 2001, with a leveling in 2002. During the 1990s and early 2000s, the prevalence rates for amphetamine use in all three groups remained well below the rates observed in the early 1980s. Since 2002 there have been some small nonparallel changes among the three groups, with amphetamine use among college students (who have consistently had the lowest rate of use since the mid-1980s) holding steady through 2007, while use among 12th graders and the noncollege group declined. In 2009, prevalence rates were similar for the college and noncollege groups (7.5% and 7.7%), and slightly lower among 12th

graders (6.6%). But a recent increase in amphetamine use among just the college students places them highest in 2010 (9.0%), up from 5.7% in 2008.

- Use of ***inhalants*** has been very low among college and noncollege respondents since 1980, when rates were first measured (Figure 9-4). Twelfth graders have consistently had higher rates of inhalant use than either of these segments of the young adult population. All three groups have trended in parallel, though, with an increase in use from around 1981 through 1995, followed by a long decline thereafter. The increase and subsequent decline were substantially more pronounced among 12th graders. After a long decline, use has leveled off in all three groups since about 2007.

- Annual prevalence of ***LSD*** remains fairly low among college students in 2010 (Figure 9-6). During the early 1980s, one of the largest proportional declines observed among college students was for this drug. Annual prevalence fell from 6.3% in 1982 to 2.2% in 1985. After 1989, their use began to increase, reaching 6.9% by 1995. After 1995, use fell gradually among college students, their age-mates, and 12th graders. In 2002 there was a particularly sharp decrease in all groups, resulting in a considerable convergence in usage rates. All three groups now have annual prevalence rates between 1.8% and 2.6%. College students maintained lower levels of use than the other two groups from the mid-1990s through 2007. Use rose slightly in all three groups in 2008 but there have been no consistent changes since then.

- The use of ***ecstasy*** (***MDMA***) by college students stands at 4.3% in 2010, up from 2.2% six years earlier. College use and use by their noncollege age peers began to rise after 1994 and their rates tracked closely through about 2000 (Figure 9-8). The 12th graders had questions added in 1996 and also tracked the other two groups through about 2000. After 1997 there was a sharp increase in all three groups. The annual prevalence for college students, for example, rose from 2.4% in 1997 to 9.2% in 2001. All three groups declined sharply between 2001 and 2004, when annual rates were at 2.2% for college students, 2.7% for noncollege students, and 4.0% for 12th graders. All three groups showed some increase by 2010, when rates were at 4.3%, 6.2%, and 4.5 % respectively.

- The use of ***sedatives*** (***barbiturates***) has been and remains lowest among college students, who have had the lowest rate of use among the three groups since data were first available in 1980. At this early date, sedative (barbiturate) use was already quite low among college students (at 2.9% annual prevalence, see Figure 9-12), but it still fell by more than half to 1.3% by 1985. This proportional decline was sharper than among 12th graders and less sharp than among the noncollege respondents, both of whom started at a considerably higher level of use. Annual prevalence remained essentially unchanged between 1985 and 1993 for all three groups. All groups then showed a gradual increase in use between 1993 (or 1994 for college students) and 2001, with 12th graders showing a significant increase in 2002 and use in the other two groups leveling off. The college students showed a fairly steady increase over the 10-year period 1994–2004, with pauses in 1998 and 2002 and then a leveling in 2005; the other two groups remained at higher levels than the college students throughout this period. After 2005, modest declines in use appeared in all three groups, and after a bump up in 2008 among college students and

their noncollege peers, all three groups showed some modest further decline through 2010.

- Figure 9-13 shows that the annual prevalence of ***tranquilizer*** use among college students dropped by nearly three fourths in 1980–1994, from 6.9% to 1.8%. After this long period of decline, tranquilizer use increased gradually, returning to 6.9% by 2003. Use by the noncollege segment and by 12th graders dropped more sharply, eliminating the differences among the three groups by 1992. Use rose after 1992 for all, but the noncollege group showed the largest gain after 1999, again creating some differences. By 2002, tranquilizer use was once again at or near its recent high in all three groups. In 2003, however, the noncollege group and the 12th graders showed their first declines in recent years, thus narrowing the differences among the three groups. From 2004 to 2007, all three groups showed modest declines in use; since 2007 there have been slight declines in all three groups.

- The use of ***narcotics other than heroin***[65] (Figure 9-10a) has risen since about the mid 1990s for all three young adult groups. The overall trends in use have been quite parallel to those for sedatives (barbiturates) and tranquilizers. By 1994 the use of narcotics other than heroin by college students was about half what it was in 1980 (2.4% in 1994 vs. 5.1% in 1980) as a result of a fairly gradual decline over that 14-year interval. This trend closely paralleled use among their noncollege counterparts and 12th graders. As with a number of other drugs, use among 12th graders began to rise after 1992, but use among college students did not begin to increase until after 1994, likely due to a cohort effect. In 2003, annual prevalence among college students reached an historic high point of 8.7% before leveling for three years. It then declined some from 8.8% in 2006 to 7.2% by 2010. Use among 12th graders leveled after reaching an historic high in 2004 of 9.5% (8.7% in 2010). The noncollege group emerged after 2000 as the heaviest using group for the first time, as their use kept increasing through 2005, reaching an all-time high of 13%. In 2006 and 2007 their use declined, but appears to have leveled since; at 11.2% in 2010, their use remains the highest of the three groups.

- Although data about ***OxyContin*** and ***Vicodin*** were not collected until 2002, (Figures 9-10b and 9-10c, and Table 8-2) these drugs help to explain past differences between the college and noncollege segments in use of narcotics other than heroin. The noncollege group had annual prevalence rates up to twice that for college students in the use of both drugs, though that is no longer true in 2010. Annual prevalence of ***OxyContin*** use among college students rose fairly steadily, from 1.5% in 2002 to 5.0% in 2009, before dropping significantly to 2.3% in 2010. Use in the noncollege segment rose from 2002 (3.3%) to 2009 (6.2%) before it also fell in 2010 (to 4.0%), but the trend line has been quite uneven, likely due to the limited numbers of cases upon which these estimates are based. (Questions about OxyContin and Vicodin are only in two of the six questionnaire forms.) Among 12th graders, use also rose from 2002 (4.0%) to 5.0% in 2009 (5.1%). It is clear that OxyContin use increased among college students between 2002 and 2009, though use appears to be down in 2010.

[65]As discussed in chapters 4 and 5, because the questions about narcotics other than heroin were changed in 2002, the prevalence figures are adjusted estimates. See the earlier discussion for details.

- ***Vicodin*** use (Figure 9-10b) showed a somewhat different pattern, with annual prevalence among all three groups remaining fairly level—and substantially higher—from 2002 through 2008, and then declining in 2010. As with OxyContin, the noncollege segment has consistently had higher Vicodin use than the college students. Twelfth grade Vicodin use has been in-between. Because of the limited numbers of cases, the trends in use of these two drugs have generally been uneven in the young adult groups. In 2010, reported Vicodin use declined in all three groups, and with a significant 3.5 percentage-point-drop among college students.

- Over recent years, the rates of ***cocaine*** use among college students, noncollege peers, and 12th graders (Figure 9-9) have declined to levels below those in the 1990s and well below those in the 1980s. Like the 12th graders, college students showed a relatively stable pattern of cocaine use between 1980 and 1986, when their usage levels (and those of their noncollege age peers) were considerably higher than those observed among 12th graders. This level period was followed by a dramatic drop of nearly nine tenths in annual prevalence among college students, from 17.1% in 1986 to 2.0% by 1994. Their noncollege counterparts also showed a large but somewhat less dramatic decline, from 18.9% in 1986 to 5.1% in 1994. Because use among college students also dropped more sharply than among 12th graders, there was little or no difference between those two groups in annual prevalence rates for cocaine use between 1990 and 1995. After 1995, cocaine use rose the least among college students, creating a reversal of the previous gap, with 12th graders having higher usage levels than college students; this lasted for a few years before the college students caught up. Between 1994 and 1998, annual cocaine prevalence for college students increased significantly, from a 14-year low of 2.0% in 1994 to 4.5% by 1998, roughly where it stayed through 2002. Their use then showed a gradual rise after 2002, with annual prevalence increasing from 4.8% to 6.6% in 2004; it then dropped to 3.5% by 2010. Twelfth graders and the noncollege segment also exhibited an increase in annual prevalence of cocaine use after 1992 and 1993, respectively. Use was level among 12th graders from 2000 to 2007, but continued to increase among those not in college between 1999 and 2006, considerably widening the gap between the noncollege segment and the other two groups. After 2004, use among college students finally showed some decline in parallel with the decline among 12th graders. Use in the noncollege group, which has had the highest cocaine prevalence throughout, finally began to decline after 2006 and dropped by about half to 4.9% by 2010. All three groups now have rates below those observed in the relapse phase of the illicit drug epidemic in the 1990s, with the noncollege group showing the greatest decline.

- College students have shown some unique shifts in ***alcohol*** use. Despite different trend patterns among the three groups, college students have exhibited the highest levels and greatest constancy in ***occasions of heavy drinking*** since they were added to MTF surveys in 1980. Occasions of heavy drinking are defined as having ***five or more drinks in a row*** at least once during the prior two weeks. Over the 30-year interval from 1980 through 2010 college students' rates of such drinking declined only 7 percentage points (from 44% to 37%), while noncollege respondents' rates declined 13 percentage points (41% to 28%) and high school seniors' rates declined by 18 percentage points (41% to 23%). As

can be seen in Figure 9-14d, both the noncollege segment and 12th graders showed fairly substantial declines in the prevalence of occasions of heavy drinking from 1981 through 1990. In contrast, college students showed no decline from 1981 to 1986, and then only a modest decline of five percentage points from 1986 through 1993. Between 1981 (when all three populations were very close in use) and 1992, this measure of heavy drinking dropped by 14 percentage points among 12th graders, by 11 percentage points among the noncollege respondents, but by only 2 percentage points among college students. After 1992, occasions of heavy drinking began to rise among 12th graders, while still declining some among college students—likely reflecting a cohort effect emerging during this period, similar to that observed for a number of illicit drugs—narrowing the gap somewhat. Drinking at that level subsequently began to increase among the noncollege segment after 1995, and by less among college students after 1996—increases that continued into 2001. Since 2001, college students have held fairly steady in their rates, while the noncollege segment held steady from roughly 2003 to 2007; rates in both groups declined over the past three years. Meanwhile, among 12th graders, occasions of heavy drinking started a gradual decline after 1998 that continued through 2006, enlarging the difference between them and the other two groups, at least until the other two groups started their recent declines. Once again there is evidence of cohort effects at work here since the early 1990s, with inflection points later for the older strata. Binge drinking among college students fell significantly in 2009, but held steady in 2010.

Why did college students' heavy drinking show little decline for a decade (1981–1991) compared to their noncollege peers and 12th graders? One possibility is that campuses provided some insulation from the effects of changes in the drinking age laws that took place in many states during that interval. Similarly, entrenched in many college campuses is a culture of binge drinking which has proven impervious to many societal trends (and intervention attempts).[66] Also, individuals who are under the legal drinking age in college are mixed in with peers who are of legal age to purchase alcohol; this is no longer true in high schools and less true, perhaps, for many of those ages 19 to 22 who are not in college. Finally, much alcohol advertising and promotion was and is directed specifically at the college student population.

Daily drinking among noncollege young adults has shown more change than occasions of heavy drinking among college students (Figure 9-14c). College students' daily drinking estimates—which appeared a little less stable in the 1980s, perhaps due to smaller sample sizes at that time—showed little or no decline between 1980 (6.5%) and 1984 (6.6%), but a considerable decline from 1984 through 1995 (to 3.0%), followed by a period of some increase, reaching 5.0% in 2002. After 2002 their daily drinking dropped to 3.7% in 2004, but increased slightly to 4.3% in 2007, until it fell to 2.6% in 2010. Twelfth graders showed a somewhat similar pattern of daily drinking with a long period of decline, followed by an earlier reversal beginning in 1994. After 1998 their daily drinking rate declined, reaching 2.7% by 2010. Of the three groups, the noncollege respondents have generally had the highest rate of current daily drinking, but in the past

[66]Schulenberg, J. E., & Maggs, J. L. (2002). A developmental perspective on alcohol use and heavy drinking during adolescence and the transition to young adulthood. *Journal of Studies on Alcohol, Supplement 14,* 54–70.

three years college students have been slightly higher, largely because daily drinking fell among the noncollege segment.

- The 30-day prevalence of ***cigarette smoking*** (Figure 9-15a) among college students has declined dramatically over the last decade or more, falling by almost one half from 31% in 1999 to 16% in 2010. Daily smoking among college students has fallen by nearly six tenths over the same interval (from 19% to 8%). In the early 1980s, cigarette smoking among U.S. college students declined modestly. Thirty-day prevalence fell from 26% to 22% between 1980 and 1984, remained fairly stable through 1990 (22%), then increased gradually but substantially, reaching 31% by 1999. In 2000 the first evidence of a decline in smoking among college students began to appear, two years after smoking had begun to decline among 12th graders. This lag no doubt reflects a cohort effect. The noncollege group showed little consistent change after the mid-1990s until evidence of gradual decline began to emerge sometime after 1999. Twelfth graders have shown a fairly steady decline since 1997, while use among college students has declined since 1999. Because the noncollege segment has shown a more moderate—though nevertheless important—decline so far, their smoking rate is now much higher than that of the college students or the 12th graders.

  While smoking rates have consistently been lower among college students than the noncollege segment, the trend lines for these two groups converged some after 1984, as smoking rates more or less stabilized among college students but continued to decline among young adults not in college (Figure 9-15a). In fact, between 1989 and 1991, use began to rise among college students while continuing to decline among noncollege respondents. Both groups showed fairly parallel increases in smoking between about 1991 and 1999, after which use continued to increase among the noncollege segment, but began to decline among college students, opening up a large difference between them. (Twelfth graders exhibited an increase from 1992 to 1997, and their use has declined significantly since then.) The popularity of Camel cigarettes among the college-bound may help to explain some of the narrowing of the gap between college students and their age peers in the 1990s.[67] The Joe Camel advertising and promotion campaign, commenced in the late 1980s and ended in the late 1990s, may have succeeded in initiating more college students (particularly males) to smoking than had been the case previously or since.

- For many prescription-type drugs—***amphetamines***, ***sedatives*** (***barbiturates***), and ***tranquilizers***—differences between college students and their noncollege age peers narrowed over the years, particularly through the early 1990s. Much of this was due to general overall declines in usage rates during the 1980s, but may also reflect the increasing proportion of the age group going to college. After that, the differences between these two groups increased for sedatives (barbiturates) and tranquilizers as use in general grew.

[67] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (1999). *Cigarette brand preferences among adolescents* (Monitoring the Future Occasional Paper No. 45). Ann Arbor, MI: Institute for Social Research. Available at: http://www.monitoringthefuture.org/pubs/occpapers/occ45.pdf.

The overall drug use trends among college students parallel the trends among 12th graders, though after the early 1990s they were generally lagged by a few years; still, declines in many drugs from 1980 to 1990 were proportionately larger among 19- to 22-year-olds (both college and noncollege) than among 12th graders. Despite parallel trends in the early 1990s, 12th graders have shown larger, and often earlier, increases in the use of a number of drugs in the years since; as indicated in *Volume I*, 8th and 10th graders showed increases a year earlier than 12th graders. Clearly the upsurge, or what we have called a "relapse phase" in the illicit drug epidemic, did not originate on the nation's college campuses, as did the earlier epidemic. It originated among secondary school students—and the younger ones at that—and was carried *up* the age spectrum through generational replacement.

GENDER DIFFERENCES IN TRENDS AMONG COLLEGE STUDENTS

As mentioned earlier, recent decades have seen a slow rise in the proportion of college students who are female. Females constituted 50% of our 1980 sample of college students compared to 61% of our 2010 sample. Given that substantial gender differences exist in the use of some drugs, we have been concerned that apparent long-term trends in the levels of drug use among college students (and/or among the noncollege group) might actually be attributable to changes in the gender composition of that population. For this reason, in particular, we present separate trend lines for males and females. Gender differences in trends are illustrated in the lower panels of Figures 9-1 through 9-15c. In general, trends in use of the various drugs have been highly parallel for male and female college students, as an examination of the relevant figures will show. The most noteworthy exceptions are mentioned below.

Certain drug use measures showed a convergence between the genders as use rates declined to low levels. This has been true for the use of ***any illicit drug*** and ***any illicit drug other than marijuana***. ***Marijuana*** use was another example, with some convergence in the rates between 1980 and 1991 as overall use declined, and then some divergence between 1991 and 1999 as usage rates rose. After 2001, however, the two genders diverged somewhat, with use among males remaining essentially unchanged through 2008 and use among females decreasing (see Figure 9-3a). ***Daily marijuana*** use (Figure 9-3b) presents a clearer example, with the steep decline among males between 1980 and 1986 substantially narrowing the gap between genders. Between 1986 and 1993 there was no further narrowing; but as use began to rise in the mid-1990s, a greater increase among college males widened the gap again through about 2000. After 2000 the gender gap opened some, though the lines have been unsteady. At present, college males have an annual prevalence rate more than twice that of college females.

- From 1999 to 2005, ***LSD*** use dropped more steeply among males than among females, offsetting sizeable previous differences and bringing the genders close together at very low prevalence rates (Figure 9-6). The small increases in use that have occurred since 2005 have been greater among males.

- Use of ***hallucinogens other than LSD*** has dropped for both genders since 2002 or 2003, though males remain at considerably higher usage levels than females (Figure 9-7).

- Trends in the use of ***narcotics other than heroin*** have generally moved in parallel for both male and female college students (with males usually higher); however, because there has been a considerable increase in use since about 1993, the gap between the genders has widened (see Figure 9-10a).

- Rates of ***ecstasy*** (***MDMA***) use have been quite similar for male and female college students since measures were first introduced in 1989, and changes in their usage levels have tracked closely (Figure 9-8).

- After 1986, ***cocaine*** use, which had been substantially higher among males, dropped more steeply for males than for females in general and among male college students in particular, considerably narrowing the sizable gap between genders (see Figure 9-9). Since 1991, both genders have moved in parallel, with males reporting somewhat higher usage rates.

- ***Amphetamine*** use (Figure 9-11) also showed some convergence in the early 1980s due to a greater decline among males. Since 1989 the trends have been quite parallel, with males generally having a slightly higher annual prevalence rate. Both genders have shown some increase in use since 2008, with males increasing more and beginning to open a larger difference.

- The gender differences for ***sedatives*** (***barbiturates***) and ***tranquilizers*** have been modest through most of the life of the study, with college males usually having slightly higher rates than their female counterparts. Since 1995 a somewhat larger gap has emerged for tranquilizers, again with males being higher.

- Among college students, the annual prevalence of ***alcohol*** use has been virtually identical for the two genders since MTF began (Figure 9-14a). Prior to 2000, the 30-day prevalence rate showed a modest difference, with males slightly higher (Figure 9-14b); but that difference disappeared by 2000 as drinking rose some among females. In 2008 a slight divergence in 30-day prevalence began to develop as use by females dropped more than among males. College males have consistently had considerably higher rates of daily drinking and binge drinking than college females (Figures 9-14c and 9-14d). If anything, the gender difference in ***daily drinking*** expanded after 2000, with males increasing and females showing some net decrease. Since about 2005, however, they have been converging, as daily use among female college students has risen some while daily use among males has declined considerably. In 2010, the rates were 5.6% for college males versus 2.3% for college females.

- From 1988 through 1994, ***occasions of heavy drinking*** among college females decreased some (from 37% to 31%); but such drinking among college males declined more, from a high point in 1986 of 58% to 47% in 1995 (see Figure 9-14d). From 1998 through 2006 there was some closing of the gender gap in binge drinking, as the rate among college females rose from 31% in 1998 to 34% in 2008, while it actually declined some from 52% to 49% among college males. Since 2007, both genders have shown some decline in binge drinking and a fairly constant gap remains in their rates.

- Between 1980 and 1992, the 30-day prevalence of ***cigarette smoking*** was consistently higher among college females than males (Figure 9-15a). However, the gap in 30-day prevalence narrowed because use by female college students declined considerably between 1980 and 1989, while use by male college students did not decline. After 1989, the gap remained quite small and the genders reversed position, with college males catching up to, and passing, females in their rate of smoking by 1994 and then remaining higher through at least 2000. (A similar reversal had occurred among 12th graders a few years earlier, so this reversal probably reflected a cohort effect.) Both genders exhibited a considerable decrease in 30-day smoking between 1999 and 2003, leaving very little difference between them (22% for males, 23% for females), although the trend line for college males was irregular during this interval. Since 2006, males have been smoking at higher levels than females, and use has held fairly steady among college males while it continued to drop among college females. In 2010 the 30-day prevalence rates were 20% and 14% for college males and females, respectively.

  While the rise in smoking among college students was longer term and more gradual than in the other two groups, it was nevertheless substantial, rising by nearly half between 1989 (21%) and 1999 (31%). The increase in smoking after 1988 was sharper among college males than among college females, consistent with the notion that Camel cigarettes' promotion and advertising—which ended in the late 1990s as part of the tobacco settlement—played a role in the overall increase. As we have reported elsewhere, Camels proved considerably more popular among males, especially among those college-bound and from more educated families.[68]

[68]Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (1999). *Cigarette brand preferences among adolescents* (Monitoring the Future Occasional Paper No. 45). Ann Arbor, MI: Institute for Social Research. Available at: http://www.monitoringthefuture.org/pubs/occpapers/occ45.pdf.

TABLE 9-1
Trends in Lifetime Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Approximate Weighted N =	*1,040*	*1,130*	*1,150*	*1,170*	*1,110*	*1,080*	*1,190*	*1,220*	*1,310*	*1,300*	*1,400*	*1,410*	*1,490*	*1,490*	*1,410*	*1,450*	*1,450*	*1,480*	*1,440*	*1,440*
Any Illicit Drug[a]	69.4	66.8	64.6	66.9	62.7	65.2	61.8	60.0	58.4	55.6	54.0	50.4	48.8	45.9	45.5	45.5	47.4	49.0	52.9	53.2
Any Illicit Drug[a] other than Marijuana	42.2	41.3	39.6	41.7	38.6	40.0	37.5	35.7	33.4	30.5	28.4	25.8	26.1	24.3	22.0	24.5	22.7	24.4	24.8	25.5
Marijuana	65.0	63.3	60.5	63.1	59.0	60.6	57.9	55.8	54.3	51.3	49.1	46.3	44.1	42.0	42.2	41.7	45.1	46.1	49.9	50.8
Inhalants[b]	10.2	8.8	10.6	11.0	10.4	10.6	11.0	13.2	12.6	15.0	13.9	14.4	14.2	14.8	12.0	13.8	11.4	12.4	12.8	12.4
Hallucinogens[c]	15.0	12.0	15.0	12.2	12.9	11.4	11.2	10.9	10.2	10.7	11.2	11.3	12.0	11.8	10.0	13.0	12.6	13.8	15.2	14.8
LSD	10.3	8.5	11.5	8.8	9.4	7.4	7.7	8.0	7.5	7.8	9.1	9.6	10.6	10.6	9.2	11.5	10.8	11.7	13.1	12.7
Hallucinogens other than LSD[c]	11.6	9.0	10.6	8.3	9.2	8.1	7.8	6.8	6.2	6.2	6.0	6.0	5.7	5.4	4.4	6.5	6.5	7.5	8.7	8.8
Ecstasy (MDMA)[d]	—	—	—	—	—	—	—	—	—	3.8	3.9	2.0	2.9	2.3	2.1	3.1	4.3	4.6	6.8	8.4
Cocaine	22.0	21.5	22.4	23.1	21.7	22.9	23.3	20.6	15.8	14.6	11.4	9.4	7.9	6.3	5.0	5.5	5.0	5.6	8.1	8.4
Crack[e]	—	—	—	—	—	—	—	3.3	3.4	2.4	1.4	1.5	1.7	1.3	1.0	1.8	1.2	1.4	2.2	2.4
Other Cocaine[f]	—	—	—	—	—	—	—	18.1	14.2	16.0	10.2	9.0	7.6	6.3	4.6	5.2	4.6	5.0	7.4	7.8
Heroin	0.9	0.6	0.5	0.3	0.5	0.4	0.4	0.6	0.3	0.7	0.3	0.5	0.5	0.6	0.1	0.6	0.7	0.9	1.7	0.9
Narcotics other than Heroin[g,h]	8.9	8.3	8.1	8.4	8.9	6.3	8.8	7.6	6.3	7.6	6.8	7.3	7.3	6.2	5.1	7.2	5.7	8.2	8.7	8.7
Amphetamines[g]	29.5	29.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines, Adjusted[g,i]	—	—	30.1	27.8	27.8	25.4	22.3	19.8	17.7	14.6	13.2	13.0	10.5	10.1	9.2	10.7	9.5	10.6	10.6	11.9
Methamphetamine[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.1
Crystal Methamphetamine (Ice)[j]	—	—	—	—	—	—	—	—	—	—	1.0	1.3	0.6	1.6	1.3	1.0	0.8	1.6	2.2	2.8
Sedatives (Barbiturates)[g]	8.1	7.8	8.2	6.6	6.4	4.9	5.4	3.5	3.6	3.2	3.8	3.5	3.8	3.5	3.2	4.0	4.6	5.2	5.7	6.7
Sedatives, Adjusted[g,k]	13.7	14.2	14.1	12.2	10.8	9.3	8.0	6.1	4.7	4.1	—	—	—	—	—	—	—	—	—	—
Methaqualone[g]	10.3	10.4	11.1	9.2	9.0	7.2	5.8	4.1	2.2	2.4	—	—	—	—	—	—	—	—	—	—
Tranquilizers[g,l]	15.2	11.4	11.7	10.8	10.8	9.8	10.7	8.7	8.0	8.0	7.1	6.8	6.9	6.3	4.4	5.4	5.4	6.9	7.7	8.2
Alcohol[m]	94.3	95.2	95.2	95.0	94.2	95.3	94.9	94.1	94.9	93.7	93.1	93.6	91.8	89.3	88.2	88.5	88.4	87.3	88.5	88.0
Been Drunk[n]	—	—	—	—	—	—	—	—	—	—	—	79.6	76.8	76.4	74.4	76.6	76.2	77.0	76.8	75.1
Flavored Alcoholic Beverages[o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[p]	—	—	—	—	—	—	—	—	—	0.4	1.5	1.4	1.7	1.9	0.5	0.8	0.6	1.6	0.9	1.3

Years cont.

(Table continued on next page.)

TABLE 9-1 (cont.)
Trends in Lifetime Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Approximate Weighted N =	*1,350*	*1,340*	*1,260*	*1,270*	*1,400*	*1,360*	*1,280*	*1,250*	*1,270*	*1,320*	*1,260*	
Any Illicit Drug[a]	53.7	53.6	51.8	53.9	52.2	52.3	50.6	50.5	49.5	51.4	49.1	-2.3
Any Illicit Drug[a] other than Marijuana	25.8	26.3	26.9	27.6	28.0	26.5	26.3	25.3	22.6	25.6	24.8	-0.8
Marijuana	51.2	51.0	49.5	50.7	49.1	49.1	46.9	47.5	46.8	47.5	46.8	-0.6
Inhalants[b]	12.9	9.6	7.7	9.7	8.5	7.1	7.4	6.3	4.9	6.9	5.5	-1.4
Hallucinogens[c]	14.4	14.8	13.6	14.5	12.0	11.0	10.6	9.1	8.5	8.0	7.8	-0.3
LSD	11.8	12.2	8.6	8.7	5.6	3.7	3.5	3.3	4.3	3.3	4.0	+0.7
Hallucinogens other than LSD[c]	8.2	10.7	11.0	12.8	10.1	10.6	10.1	8.5	8.2	7.8	7.1	-0.7
Ecstasy (MDMA)[d]	13.1	14.7	12.7	12.9	10.2	8.3	6.9	5.4	6.2	6.5	6.2	-0.3
Cocaine	9.1	8.6	8.2	9.2	9.5	8.8	7.7	8.5	7.2	8.1	6.6	-1.5
Crack[e]	2.5	2.0	1.9	3.1	2.0	1.7	2.3	1.3	1.4	1.0	1.2	+0.2
Other Cocaine[f]	8.1	8.3	8.6	8.5	9.3	8.1	6.2	8.0	7.1	7.9	6.7	-1.2
Heroin	1.7	1.2	1.0	1.0	0.9	0.5	0.7	0.5	0.7	0.8	0.7	-0.1
Narcotics other than Heroin[g,h]	8.9	11.0	12.2	14.2	13.8	14.4	14.6	14.1	12.4	14.0	12.2	-1.8
Amphetamines[g]	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines, Adj.[g,i]	12.3	12.4	11.9	12.3	12.7	12.3	10.7	11.2	9.1	11.8	12.1	+0.4
Methamphetamine[j]	5.1	5.3	5.0	5.8	5.2	4.1	2.9	1.9	1.9	1.0	1.1	+0.1
Crystal Methamphetamine (Ice)[j]	1.3	2.3	2.0	2.9	2.2	2.4	1.7	1.3	1.1	0.7	0.8	+0.1
Sedatives (Barbiturates)[g]	6.9	6.0	5.9	5.7	7.2	8.5	6.3	5.9	6.4	6.0	5.3	-0.6
Sedatives, Adj.[g,k]	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone[g]	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers[g,l]	8.8	9.7	10.7	11.0	10.6	11.9	10.0	9.1	8.6	9.2	8.1	-1.0
Alcohol[m]	86.6	86.1	86.0	86.2	84.6	86.6	84.7	83.1	85.3	82.6	82.3	-0.3
Been Drunk[n]	74.7	76.1	75.1	74.9	73.4	72.9	73.1	71.6	72.5	69.1	70.5	+1.5
Flavored Alcoholic Beverages[o]	—	—	—	—	79.0	84.5	80.9	80.6	78.6	78.1	77.4	-0.7
Cigarettes	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[p]	0.6	1.5	1.2	1.2	1.6	1.0	1.9	0.6	1.6	1.3	0.7	-0.6

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

' — ' indicates data not available. See footnotes on next page.

Footnotes for Tables 9-1 through 9-5

[a]"Any illicit drug" includes use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), methaqualone (until 1990), or tranquilizers not under a doctor's orders.
[b]This drug was asked about in four of the five questionnaire forms in 1980–1989, in five of the six forms in 1990–1998, and in three of the six forms in 1999–2010. Total *N* in 2010 is approximately 630.
[c]In 2001 the question text was changed on three of the six questionnaire forms. "Other psychedelics" was changed to "other hallucinogens," and "shrooms" was added to the list of examples. Beginning in 2002 the remaining forms were changed to the new wording.
[d]This drug was asked about in two of the five questionnaire forms in 1989, in two of the six questionnaire forms in 1990–2001, and in three of the six questionnaire forms in 2002–2010. Total *N* in 2010 is approximately 630.
[e]This drug was asked about in one of the five questionnaire forms for annual use only in 1986, two of the five questionnaire forms in 1987–1989, in all six questionnaire forms in 1990–2001, and in five of the six questionnaire forms in 2002–2010. Total *N* in 2010 is approximately 1,050.
[f]This drug was asked about in one of the five questionnaire forms in 1987–1989 and in four of six questionnaire forms in 1990–2010. Total *N* in 2010 is approximately 840.
[g]Only drug use that was not under a doctor's orders is included here.
[h]In 2002 the question text was changed on three of the six questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced by Vicodin, OxyContin, and Percocet. The 2002 data presented here are based on the changed forms only; *N* is three sixths of *N* indicated. In 2003 the remaining forms were changed to the new wording. The data are based on all forms in 2003 and beyond.
[i]Based on the data from the revised question, which attempts to exclude inappropriate reporting of nonprescription amphetamines.
[j]This drug was asked about in two of the six questionnaire forms. Total *N* in 2010 is approximately 420.
[k]"Sedatives, adjusted" data are a combination of barbiturate and methaqualone data.
[l]In 2001 the question text was changed on three of the six questionnaire forms. "Miltown" was replaced with "Xanax" in the list of examples. Beginning in 2002 the remaining forms were changed to the new wording.
[m]In 1993 and 1994, the question text was changed slightly in three of the six questionnaire forms to indicate that a "drink" meant "more than just a few sips." Because this revision resulted in rather little change in reported prevalence in the surveys of high school graduates, the data for all forms combined are used in order to provide the most reliable estimate of change. After 1994 the new question text was used in all six of the questionnaire forms.
[n]This drug was asked about in three of the six questionnaire forms. Total *N* in 2010 is approximately 660.
[o]This drug was asked about in one of the six questionnaire forms. Total *N* in 2010 is approximately 220.
[p]This drug was asked about in one of the five questionnaire forms in 1989 and in two of the six questionnaire forms in 1990–2010. Total *N* in 2010 is approximately 440.
[q]Daily use is defined as use on 20 or more occasions in the past 30 days except for cigarettes, measured as actual daily use, and 5+ drinks, measured as having five or more drinks in a row in the last two weeks.
[r]Revised questions about amphetamine use were introduced in 1982 to more completely exclude inappropriate reporting of nonprescription amphetamines The data in italics are therefore not strictly comparable to the other data.

TABLE 9-2
Trends in Annual Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Approximate Weighted N =	*1,040*	*1,130*	*1,150*	*1,170*	*1,110*	*1,080*	*1,190*	*1,220*	*1,310*	*1,300*	*1,400*	*1,410*	*1,490*	*1,490*	*1,410*	*1,450*	*1,450*	*1,480*	*1,440*	*1,440*
Any Illicit Drug[a]	56.2	55.0	49.5	49.8	45.1	46.3	45.0	40.1	37.4	36.7	33.3	29.2	30.6	30.6	31.4	33.5	34.2	34.1	37.8	36.9
Any Illicit Drug[a] other than Marijuana	32.3	31.7	29.9	29.9	27.2	26.7	25.0	21.3	19.2	16.4	15.2	13.2	13.1	12.5	12.2	15.9	12.8	15.8	14.0	15.4
Marijuana	51.2	51.3	44.7	45.2	40.7	41.7	40.9	37.0	34.6	33.6	29.4	26.5	27.7	27.9	29.3	31.2	33.1	31.6	35.9	35.2
Inhalants[b]	3.0	2.5	2.5	2.8	2.4	3.1	3.9	3.7	4.1	3.7	3.9	3.5	3.1	3.8	3.0	3.9	3.6	4.1	3.0	3.2
Hallucinogens[c]	8.5	7.0	8.7	6.5	6.2	5.0	6.0	5.9	5.3	5.1	5.4	6.3	6.8	6.0	6.2	8.2	6.9	7.7	7.2	7.8
LSD	6.0	4.6	6.3	4.3	3.7	2.2	3.9	4.0	3.6	3.4	4.3	5.1	5.7	5.1	5.2	6.9	5.2	5.0	4.4	5.4
Hallucinogens other than LSD[c]	5.2	4.7	5.4	3.9	4.1	3.9	3.8	3.1	3.4	3.1	3.0	3.1	2.6	2.7	2.8	4.0	4.1	4.9	4.4	4.5
Ecstasy (MDMA)[d]	—	—	—	—	—	—	—	—	—	2.3	2.3	0.9	2.0	0.8	0.5	2.4	2.8	2.4	3.9	5.5
Salvia[o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	16.8	16.0	17.2	17.3	16.3	17.3	17.1	13.7	10.0	8.2	5.6	3.6	3.0	2.7	2.0	3.6	2.9	3.4	4.6	4.6
Crack[e]	—	—	—	—	—	—	—	2.0	1.4	1.5	0.6	0.5	0.4	0.6	0.5	1.1	0.6	0.4	1.0	0.9
Other Cocaine[f]	—	—	—	—	—	—	—	10.7	10.6	9.3	5.1	3.2	2.4	2.5	1.8	3.3	2.3	3.0	4.2	4.2
Heroin	0.4	0.2	0.1	*	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.6	0.2
Narcotics other than Heroin[g,h]	5.1	4.3	3.8	3.8	3.8	2.4	4.0	3.1	3.1	3.2	2.9	2.7	2.7	2.5	2.4	3.8	3.1	4.2	4.2	4.3
OxyContin[g,i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vicodin[g,i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines[g]	22.4	22.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines, Adjusted[g,i]	—	—	21.1	17.3	15.7	11.9	10.3	7.2	6.2	4.6	4.5	3.9	3.6	4.2	4.2	5.4	4.2	5.7	5.1	5.8
Ritalin[g,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Adderall[g,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Provigil[g,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methamphetamine[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.3
Crystal Methamphetamine (Ice)[j]	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.2	0.7	0.8	1.1	0.4	0.8	1.0	0.5
Sedatives (Barbiturates)[g]	2.9	2.8	3.2	2.2	1.9	1.3	2.0	1.2	1.1	1.0	1.4	1.2	1.4	1.5	1.2	2.0	2.3	3.0	2.5	3.2
Sedatives, Adjusted[g,k]	8.3	8.0	8.0	4.5	3.5	2.5	2.6	1.7	1.5	1.0	—	—	—	—	—	—	—	—	—	—
Methaqualone[g]	7.2	6.5	6.6	3.1	2.5	1.4	1.2	0.8	0.5	0.2	—	—	—	—	—	—	—	—	—	—
Tranquilizers[g,l]	6.9	4.8	4.7	4.6	3.5	3.6	4.4	3.8	3.1	2.6	3.0	2.4	2.9	2.4	1.8	2.9	2.8	3.8	3.9	3.8
Rohypnol[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GHB[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ketamine[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol[m]	90.5	92.5	92.2	91.6	90.0	92.0	91.5	90.9	89.6	89.6	89.0	88.3	86.9	85.1	82.7	83.2	83.0	82.4	84.6	83.6
Been Drunk[n]	—	—	—	—	—	—	—	—	—	—	—	69.1	67.3	65.6	63.1	62.1	64.2	66.8	67.0	65.4
Flavored Alcoholic Beverages[o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes	36.2	37.6	34.3	36.1	33.2	35.0	35.3	38.0	36.6	34.2	35.5	35.6	37.3	38.8	37.6	39.3	41.4	43.6	44.3	44.5
Steroids[p]	—	—	—	—	—	—	—	—	—	0.4	0.5	0.6	0.2	0.9	0.2	0.4	0.2	0.7	0.2	0.9

Years cont.

(Table continued on next page.)

TABLE 9-2 (cont.)
Trends in Annual Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change	
Approximate Weighted N =	*1,350*	*1,340*	*1,260*	*1,270*	*1,400*	*1,360*	*1,280*	*1,250*	*1,270*	*1,320*	*1,260*		
Any Illicit Drug[a]	36.1	37.9	37.0	36.5	36.2	36.6	33.9	35.0	35.2	36.0	35.0	-1.0	
Any Illicit Drug[a] other than Marijuana	15.6	16.4	16.6	17.9	18.6	18.5	18.1	17.3	15.3	16.9	17.1	+0.2	
Marijuana	34.0	35.6	34.7	33.7	33.3	33.3	30.2	31.8	32.3	32.8	32.7	-0.1	
Inhalants[b]	2.9	2.8	2.0	1.8	2.7	1.8	1.5	1.5	1.1	1.2	1.7	+0.5	
Hallucinogens[c]	6.7	7.5	6.3	7.4	5.9	5.0	5.6	4.9	5.1	4.7	4.9	+0.3	
LSD	4.3	4.0	2.1	1.4	1.2	0.7	1.4	1.3	2.6	2.0	2.1	+0.1	
Hallucinogens other than LSD[c]	4.4	5.5	5.8	7.1	5.6	5.0	5.4	4.7	4.4	4.1	4.4	+0.3	
Ecstasy (MDA)[d]	9.1	9.2	6.8	4.4	2.2	2.9	2.6	2.2	3.7	3.1	4.3	+1.2	
Salvia[o]	—	—	—	—	—	—	—	—	—	5.8	3.6	-2.2	
Cocaine	4.8	4.7	4.8	5.4	6.6	5.7	5.1	5.4	4.4	4.2	3.5	-0.7	
Crack[e]	0.9	0.9	0.4	1.3	1.3	0.8	1.0	0.6	0.5	0.3	0.4	+0.1	
Other Cocaine[f]	4.1	4.1	5.0	5.1	6.3	5.0	3.8	5.3	4.2	4.2	4.0	-0.2	
Heroin	0.5	0.4	0.1	0.2	0.4	0.3	0.3	0.2	0.3	0.4	0.2	-0.2	
Narcotics other than Heroin[g,h]	4.5	5.7	7.4	8.7	8.2	8.4	8.8	7.7	6.5	7.6	7.2	-0.4	
OxyContin[g,i]	—	—	1.5	2.2	2.5	2.1	3.0	2.8	3.6	5.0	2.3	-2.8	s
Vicodin[g,i]	—	—	6.9	7.5	7.4	9.6	7.6	6.7	6.7	8.4	4.9	-3.5	s
Amphetamines[g]	—	—	—	—	—	—	—	—	—	—	—	—	
Amphetamines, Adjusted[g,i]	6.6	7.2	7.0	7.1	7.0	6.7	6.0	6.9	5.7	7.5	9.0	+1.6	
Ritalin[g,i]	—	—	5.7	4.7	4.7	4.2	3.9	3.7	3.2	1.7	1.9	+0.2	
Adderall[g,i]	—	—	—	—	—	—	—	—	—	10.2	9.0	-1.2	
Provigil[g,i]	—	—	—	—	—	—	—	—	—	0.2	*	-0.2	
Methamphetamine[i]	1.6	2.4	1.2	2.6	2.9	1.7	1.2	0.4	0.5	0.3	0.4	+0.1	
Crystal Methamphetamine (Ice)[i]	0.5	0.6	0.8	0.9	1.1	1.4	0.6	0.7	0.1	0.1	0.5	+0.5	
Sedatives (Barbiturates)[g]	3.7	3.8	3.7	4.1	4.2	3.9	3.4	3.6	3.7	3.1	2.5	-0.6	
Sedatives, Adjusted[g,k]	—	—	—	—	—	—	—	—	—	—	—	—	
Methaqualone[g]	—	—	—	—	—	—	—	—	—	—	—	—	
Tranquilizers[g,j]	4.2	5.1	6.7	6.9	6.7	6.4	5.8	5.5	5.0	5.4	4.9	-0.5	
Rohypnol[i]	—	—	0.7	0.4	0.3	0.1	0.2	0.1	0.3	*	—	—	
GHB[i]	—	—	0.6	0.3	0.7	0.4	*	0.1	0.2	*	0.1	+0.1	
Ketamine[i]	—	—	1.3	1.0	1.5	0.5	0.9	0.2	0.4	0.1	0.7	+0.6	
Alcohol[m]	83.2	83.0	82.9	81.7	81.2	83.0	82.1	80.9	82.1	79.4	78.6	-0.8	
Been Drunk[n]	64.7	68.8	66.0	64.7	67.1	64.2	66.2	64.8	66.8	61.5	63.8	+2.3	
Flavored Alcoholic Beverages[o]	—	—	—	—	63.2	67.0	63.5	62.6	65.0	66.1	60.3	-5.8	
Cigarettes	41.3	39.0	38.3	35.2	36.7	36.0	30.9	30.7	30.0	29.9	28.1	-1.8	
Steroids[p]	0.1	0.6	0.5	0.3	0.6	0.5	0.8	0.6	0.1	0.7	0.3	-0.4	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

' * ' indicates a prevalence rate of less than 0.05%. ' — ' indicates data not available.

See relevant footnotes at the end of Table 9-1.

TABLE 9-3
Trends in 30-Day Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Approximate Weighted N =	*1,040*	*1,130*	*1,150*	*1,170*	*1,110*	*1,080*	*1,190*	*1,220*	*1,310*	*1,300*	*1,400*	*1,410*	*1,490*	*1,490*	*1,410*	*1,450*	*1,450*	*1,480*	*1,440*	*1,440*
Any Illicit Drug[a]	38.4	37.6	31.3	29.3	27.0	26.1	25.9	22.4	18.5	18.2	15.2	15.2	16.1	15.1	16.0	19.1	17.6	19.2	19.7	21.6
Any Illicit Drug[a] other than Marijuana	20.7	18.6	17.1	13.9	13.8	11.8	11.6	8.8	8.5	6.9	4.4	4.3	4.6	5.4	4.6	6.3	4.5	6.8	6.1	6.4
Marijuana	34.0	33.2	26.8	26.2	23.0	23.6	22.3	20.3	16.8	16.3	14.0	14.1	14.6	14.2	15.1	18.6	17.5	17.7	18.6	20.7
Inhalants[b]	1.5	0.9	0.8	0.7	0.7	1.0	1.1	0.9	1.3	0.8	1.0	0.9	1.1	1.3	0.6	1.6	0.8	0.7	0.6	1.5
Hallucinogens[c]	2.7	2.3	2.6	1.8	1.8	1.3	2.2	2.0	1.7	2.3	1.4	1.2	2.3	2.5	2.1	3.3	1.9	2.1	2.1	2.0
LSD	1.4	1.4	1.7	0.9	0.8	0.7	1.4	1.4	1.1	1.4	1.1	0.8	1.8	1.6	1.8	2.5	0.9	1.1	1.5	1.2
Hallucinogens other than LSD[c]	1.9	1.2	1.4	1.0	1.2	0.7	1.2	0.8	0.8	1.1	0.8	0.6	0.7	1.1	0.8	1.6	1.2	1.2	0.7	1.2
Ecstasy (MDMA)[d]	—	—	—	—	—	—	—	—	—	0.3	0.6	0.2	0.4	0.3	0.2	0.7	0.7	0.8	0.8	2.1
Cocaine	6.9	7.3	7.9	6.5	7.6	6.9	7.0	4.6	4.2	2.8	1.2	1.0	1.0	0.7	0.6	0.7	0.8	1.6	1.6	1.2
Crack[e]	—	—	—	—	—	—	1.3	0.4	0.5	0.2	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3
Other Cocaine[f]	—	—	—	—	—	—	—	3.5	3.2	3.2	1.0	1.0	0.9	0.6	0.3	0.8	0.6	1.3	1.5	1.0
Heroin	0.3	*	*	*	*	*	*	0.1	0.1	0.1	*	0.1	*	*	*	0.1	*	0.2	0.1	0.1
Narcotics other than Heroin[g,h]	1.8	1.1	0.9	1.1	1.4	0.7	0.6	0.8	0.8	0.7	0.5	0.6	1.0	0.7	0.4	1.2	0.7	1.3	1.1	1.0
Amphetamines[g]	13.4	12.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines, Adjusted[g,i]	—	—	9.9	7.0	5.5	4.2	3.7	2.3	1.8	1.3	1.4	1.0	1.1	1.5	1.5	2.2	0.9	2.1	1.7	2.3
Methamphetamine[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.2
Crystal Methamphetamine (Ice)[j]	—	—	—	—	—	—	—	—	—	—	*	*	*	0.3	0.5	0.3	0.1	0.2	0.3	*
Sedatives (Barbiturates)[g]	0.9	0.8	1.0	0.5	0.7	0.4	0.6	0.5	0.5	0.2	0.2	0.3	0.7	0.4	0.4	0.5	0.8	1.2	1.1	1.1
Sedatives, Adjusted[g,k]	3.8	3.4	2.5	1.1	1.0	0.7	0.6	0.6	0.6	0.2	—	—	—	—	—	—	—	—	—	—
Methaqualone[g]	3.1	3.0	1.9	0.7	0.5	0.3	0.1	0.2	0.1	0.0	—	—	—	—	—	—	—	—	—	—
Tranquilizers[g,l]	2.0	1.4	1.4	1.2	1.1	1.4	1.9	1.0	1.1	0.8	0.5	0.6	0.6	0.4	0.4	0.5	0.7	1.2	1.3	1.1
Alcohol[m]	81.8	81.9	82.8	80.3	79.1	80.3	79.7	78.4	77.0	76.2	74.5	74.7	71.4	70.1	67.8	67.5	67.0	65.8	68.1	69.6
Been Drunk[n]	—	—	—	—	—	—	—	—	—	—	—	45.0	45.0	43.8	42.8	37.9	40.3	46.4	44.3	44.6
Flavored Alcoholic Beverages[o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes	25.8	25.9	24.4	24.7	21.5	22.4	22.4	24.0	22.6	21.1	21.5	23.2	23.5	24.5	23.5	26.8	27.9	28.3	30.0	30.6
Steroids[p]	—	—	—	—	—	—	—	—	—	*	0.2	0.3	0.2	0.2	0.2	0.1	*	0.2	0.2	0.4

Years cont.

(Table continued on next page.)

TABLE 9-3 (cont.)
Trends in 30-Day Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Approximate Weighted N =	*1,350*	*1,340*	*1,260*	*1,270*	*1,400*	*1,360*	*1,280*	*1,250*	*1,270*	*1,320*	*1,260*	
Any Illicit Drug[a]	21.5	21.9	21.5	21.4	21.2	19.5	19.2	19.3	18.9	20.7	19.2	-1.5
Any Illicit Drug[a] other than Marijuana	6.9	7.5	7.8	8.2	9.1	8.2	8.2	8.1	7.3	8.4	8.1	-0.3
Marijuana	20.0	20.2	19.7	19.3	18.9	17.1	16.7	16.8	17.0	18.5	17.5	-0.9
Inhalants[b]	0.9	0.4	0.7	0.4	0.4	0.3	0.4	0.1	0.4	0.1	0.5	+0.4
Hallucinogens[c]	1.4	1.8	1.2	1.8	1.3	1.2	0.9	1.3	1.7	1.0	1.4	+0.4
LSD	0.9	1.0	0.2	0.2	0.2	0.1	0.3	0.3	0.8	0.3	0.7	+0.4
Hallucinogens other than LSD[c]	0.8	0.8	1.1	1.7	1.2	1.1	0.7	1.1	1.3	0.8	1.2	+0.3
Ecstasy (MDMA)[d]	2.5	1.5	0.7	1.0	0.7	0.8	0.6	0.4	0.6	0.5	1.0	+0.5
Cocaine	1.4	1.9	1.6	1.9	2.4	1.8	1.8	1.7	1.2	1.3	1.0	-0.3
Crack[e]	0.3	0.1	0.3	0.4	0.4	0.1	*	0.1	0.1	0.1	0.1	0.0
Other Cocaine[f]	0.9	1.5	1.4	1.9	2.2	1.8	1.3	1.6	1.1	1.2	1.0	-0.2
Heroin	0.2	0.1	*	*	0.1	0.1	0.2	0.1	*	0.1	*	-0.1
Narcotics other than Heroin[g,h]	1.7	1.7	3.2	2.3	3.0	3.1	3.1	2.2	2.3	2.7	2.3	-0.4
Amphetamines[g]	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines, Adjusted[g,i]	2.9	3.3	3.0	3.1	3.2	2.9	2.5	3.1	2.8	3.4	4.1	+0.7
Methamphetamine[j]	0.2	0.5	0.2	0.6	0.2	0.1	0.2	0.1	*	0.1	*	-0.1
Crystal Methamphetamine (Ice)[j]	*	0.1	*	0.3	0.1	0.2	*	0.1	*	*	0.2	+0.2
Sedatives (Barbiturates)[g]	1.1	1.5	1.7	1.7	1.5	1.3	1.3	1.4	1.4	1.2	0.6	-0.7
Sedatives, Adjusted[g,k]	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone[g]	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers[g,l]	2.0	1.5	3.0	2.8	2.7	2.2	2.1	1.8	1.6	2.2	1.3	-0.9
Alcohol[m]	67.4	67.0	68.9	66.2	67.7	67.9	65.4	66.6	69.0	65.8	65.0	-0.8
Been Drunk[n]	43.9	44.7	44.4	40.4	47.4	43.1	47.6	46.8	45.3	42.4	43.6	+1.1
Flavored Alcoholic Beverages[o]	—	—	—	—	34.0	30.9	26.2	27.5	35.8	32.3	31.5	-0.8
Cigarettes	28.2	25.7	26.7	22.5	24.3	23.8	19.2	19.9	17.9	17.9	16.4	-1.6
Steroids[p]	*	0.3	*	0.1	*	*	*	0.1	*	0.2	*	-0.2

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

' * ' indicates a prevalence rate of less than 0.05%. ' — ' indicates data not available.

See relevant footnotes at the end of Table 9-1.

TABLE 9-4

Trends in 30-Day Prevalence of Daily[q] Use of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Approximate Weighted N =	*1,040*	*1,130*	*1,150*	*1,170*	*1,110*	*1,080*	*1,190*	*1,220*	*1,310*	*1,300*	*1,400*	*1,410*	*1,490*	*1,490*	*1,410*	*1,450*	*1,450*	*1,480*
Marijuana	7.2	5.6	4.2	3.8	3.6	3.1	2.1	2.3	1.8	2.6	1.7	1.8	1.6	1.9	1.8	3.7	2.8	3.7
Cocaine	0.2	*	0.3	0.1	0.4	0.1	0.1	0.1	0.1	*	*	*	*	*	0.1	*	*	*
Amphetamines[g]	0.5	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines, Adjusted[g,i]	—	—	0.3	0.2	0.2	*	0.1	0.1	*	*	*	0.1	*	0.1	0.1	0.1	*	0.2
Alcohol[m]																		
Daily	6.5	5.5	6.1	6.1	6.6	5.0	4.6	6.0	4.9	4.0	3.8	4.1	3.7	3.9	3.7	3.0	3.2	4.5
Been Drunk[n]	—	—	—	—	—	—	—	—	—	—	—	0.5	0.2	0.3	0.8	0.5	0.1	1.3
5+ Drinks in a Row in Last 2 Weeks	43.9	43.6	44.0	43.1	45.4	44.6	45.0	42.8	43.2	41.7	41.0	42.8	41.4	40.2	40.2	38.6	38.3	40.7
Cigarettes																		
Daily	18.3	17.1	16.2	15.3	14.7	14.2	12.7	13.9	12.4	12.2	12.1	13.8	14.1	15.2	13.2	15.8	15.9	15.2
1/2 Pack+/Day	12.7	11.9	10.5	9.6	10.2	9.4	8.3	8.2	7.3	6.7	8.2	8.0	8.9	8.9	8.0	10.2	8.5	9.1

Years cont.

(Table continued on next page.)

TABLE 9-4 (cont.)

Trends in 30-Day Prevalence of Daily[q] Use of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
Approximate Weighted N =	*1,440*	*1,440*	*1,350*	*1,340*	*1,260*	*1,270*	*1,400*	*1,360*	*1,280*	*1,250*	*1,270*	*1,320*	*1,260*	
Marijuana	4.0	4.0	4.6	4.5	4.1	4.7	4.5	4.0	4.3	3.5	3.9	4.9	4.4	-0.6
Cocaine	*	*	*	*	*	*	*	0.1	0.1	*	*	*	*	0.0
Amphetamines[g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines, Adjusted[g,i]	0.1	0.1	0.1	0.2	0.1	0.3	0.2	0.2	0.4	0.1	0.2	0.1	*	0.0
Alcohol[m]														
Daily	3.9	4.5	3.6	4.7	5.0	4.3	3.7	4.6	4.8	4.3	4.0	4.3	3.6	-0.7
Been Drunk[n]	0.8	1.0	0.7	0.5	0.8	1.1	0.8	0.5	0.6	0.7	0.5	0.7	0.3	-0.4
5+ Drinks in a Row in Last 2 Weeks	38.9	40.0	39.3	40.9	40.1	38.5	41.7	40.1	40.2	41.1	40.0	36.9	37.0	+0.2
Cigarettes														
Daily	18.0	19.3	17.8	15.0	15.9	13.8	13.8	12.4	9.2	9.3	9.2	8.0	7.6	-0.4
1/2 Pack+/Day	11.3	11.0	10.1	7.8	7.9	7.6	6.8	6.7	4.9	4.3	4.3	3.8	3.9	0.0

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

' * ' indicates a prevalence rate of less than 0.05%. ' — ' indicates data not available.

See relevant footnotes at the end of Table 9-1.

TABLE 9-5
Trends in Lifetime, Annual, and 30-Day Prevalence of an Illicit Drug Use Index[a] among College Students 1 to 4 Years beyond High School, by Gender

	1980[r]	1981[r]	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
																			Years cont.
Percentage who used in lifetime																			
Any Illicit Drug																			
Total	69.4	66.8	64.6	66.9	62.7	65.2	61.8	60.0	58.4	55.6	54.0	50.4	48.8	45.9	45.5	45.5	47.4	49.0	52.9
Males	71.0	67.5	68.1	71.3	66.4	69.8	64.7	63.5	56.0	56.5	52.5	51.3	50.8	45.7	49.5	47.3	50.3	52.1	54.4
Females	67.5	66.3	61.5	63.0	59.2	61.6	59.4	57.4	60.2	54.9	55.1	49.7	47.1	46.0	42.6	44.3	45.6	46.7	52.0
Any Illicit Drug other than Marijuana																			
Total	42.2	41.3	39.6	41.7	38.6	40.0	37.5	35.7	33.4	30.5	28.4	25.8	26.1	24.3	22.0	24.5	22.7	24.4	24.8
Males	42.8	39.8	45.1	44.6	40.9	42.1	38.2	37.2	31.8	30.6	26.2	27.6	26.3	24.3	24.6	26.6	25.0	27.3	27.3
Females	41.6	42.6	34.7	39.2	36.4	38.3	37.0	34.6	34.6	30.4	30.1	24.3	26.1	24.3	20.1	22.9	21.2	22.2	23.3
Percentage who used in last 12 months																			
Any Illicit Drug																			
Total	56.2	55.0	49.5	49.8	45.1	46.3	45.0	40.1	37.4	36.7	33.3	29.2	30.6	30.6	31.4	33.5	34.2	34.1	37.8
Males	58.9	56.2	54.6	53.4	48.4	50.9	49.8	43.3	37.0	38.2	34.2	30.2	32.8	32.6	33.9	36.1	36.6	38.3	40.1
Females	53.3	54.0	44.9	46.7	41.9	42.7	41.1	37.7	37.6	35.4	32.5	28.4	28.7	29.1	29.5	31.7	32.7	31.1	36.4
Any Illicit Drug other than Marijuana																			
Total	32.3	31.7	29.9	29.9	27.2	26.7	25.0	21.3	19.2	16.4	15.2	13.2	13.1	12.5	12.2	15.9	12.8	15.8	14.0
Males	33.7	32.8	33.4	33.5	29.2	29.7	28.6	23.5	19.4	18.7	15.7	14.4	13.8	15.0	14.9	19.5	15.1	18.1	17.0
Females	31.1	30.8	26.9	26.8	25.2	24.4	22.1	19.6	19.0	14.6	14.8	12.1	12.6	10.5	10.2	13.3	11.3	14.1	12.1
Percentage who used in last 30 days																			
Any Illicit Drug																			
Total	38.4	37.6	31.3	29.3	27.0	26.1	25.9	22.4	18.5	18.2	15.2	15.2	16.1	15.1	16.0	19.1	17.6	19.2	19.7
Males	42.9	40.6	37.7	33.8	30.4	29.9	31.0	24.0	18.8	20.0	18.2	16.0	18.0	16.0	20.5	23.7	20.6	23.4	23.1
Females	34.0	34.8	25.6	25.5	23.7	23.2	21.7	21.1	18.3	16.7	12.7	14.6	14.5	14.5	12.7	15.7	15.8	16.2	17.6
Any Illicit Drug other than Marijuana																			
Total	20.7	18.6	17.1	13.9	13.8	11.8	11.6	8.8	8.5	6.9	4.4	4.3	4.6	5.4	4.6	6.3	4.5	6.8	6.1
Males	22.8	18.6	20.2	16.0	16.1	12.6	14.4	9.0	8.2	8.0	4.9	4.8	5.1	7.3	6.2	8.8	6.1	7.8	8.6
Females	18.7	18.5	14.2	12.1	11.5	11.2	9.3	8.5	8.8	6.0	4.0	3.9	4.2	3.8	3.4	4.5	3.4	6.1	4.6
Approximate Weighted N																			
All Respondents																			
Total	1,040	1,130	1,150	1,170	1,110	1,080	1,190	1,220	1,310	1,300	1,400	1,410	1,490	1,490	1,410	1,450	1,450	1,480	1,440
Males	520	530	550	550	540	490	540	520	560	580	620	640	680	660	590	610	560	630	570
Females	520	600	610	620	570	600	650	700	750	720	780	770	810	830	820	840	890	860	880

(Table continued on next page.)

TABLE 9-5 (cont.)
Trends in Lifetime, Annual, and 30-Day Prevalence of an Illicit Drug Use Index[a] among College Students 1 to 4 Years beyond High School, by Gender

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2009–2010 change
	Percentage who used in lifetime												
Any Illicit Drug													
Total	53.2	53.7	53.6	51.8	53.9	52.2	52.3	50.6	50.5	49.5	51.4	49.1	-2.3
Males	58.4	54.4	53.9	54.3	54.1	54.9	54.2	55.0	52.3	50.7	53.2	53.5	+0.3
Females	49.6	53.2	53.5	50.2	53.7	50.6	51.3	47.8	49.4	48.8	50.2	46.2	-4.0
Any Illicit Drug other than Marijuana													
Total	25.5	25.8	26.3	26.9	27.6	28.0	26.5	26.3	25.3	22.6	25.6	24.8	-0.8
Males	29.4	28.9	27.0	30.4	27.6	31.1	29.0	29.2	26.5	25.2	29.9	27.8	-2.1
Females	22.8	23.5	25.9	24.6	27.5	26.2	25.1	24.4	24.6	21.0	22.7	22.8	+0.1
	Percentage who used in last 12 months												
Any Illicit Drug													
Total	36.9	36.1	37.9	37.0	36.5	36.2	36.6	33.9	35.0	35.2	36.0	35.0	-1.0
Males	42.5	38.0	38.8	39.5	39.2	40.9	40.7	39.2	38.0	38.7	37.6	40.3	+2.8
Females	33.2	34.7	37.3	35.4	34.8	33.4	34.2	30.6	33.1	32.9	35.0	31.6	-3.4
Any Illicit Drug other than Marijuana													
Total	15.4	15.6	16.4	16.6	17.9	18.6	18.5	18.1	17.3	15.3	16.9	17.1	+0.2
Males	19.0	18.6	17.2	19.2	19.3	22.1	21.1	22.6	19.0	17.8	19.7	20.3	+0.6
Females	12.8	13.5	15.8	15.0	17.1	16.5	16.9	15.2	16.3	13.7	15.0	15.1	0.0
	Percentage who used in last 30 days												
Any Illicit Drug													
Total	21.6	21.5	21.9	21.5	21.4	21.2	19.5	19.2	19.3	18.9	20.7	19.2	-1.5
Males	26.7	24.0	25.0	25.1	22.8	26.1	22.9	23.4	22.7	23.1	23.4	25.9	+2.5
Females	18.1	19.6	19.8	19.3	20.5	18.4	17.5	16.6	17.1	16.2	19.0	15.0	-4.0 s
Any Illicit Drug other than Marijuana													
Total	6.4	6.9	7.5	7.8	8.2	9.1	8.2	8.2	8.1	7.3	8.4	8.1	-0.3
Males	7.5	8.2	9.0	8.4	8.1	11.3	10.3	10.3	9.5	9.6	9.0	10.4	+1.3
Females	5.6	6.0	6.4	7.4	8.3	7.8	7.0	6.9	7.2	5.8	8.0	6.7	-1.4
	Approximate Weighted N												
All Respondents													
Total	*1,440*	*1,350*	*1,340*	*1,260*	*1,270*	*1,400*	*1,360*	*1,280*	*1,250*	*1,270*	*1,320*	*1,260*	
Males	*590*	*560*	*540*	*490*	*480*	*520*	*500*	*500*	*470*	*510*	*530*	*500*	
Females	*850*	*790*	*800*	*770*	*790*	*880*	*860*	*780*	*770*	*760*	*790*	*760*	

Source. The Monitoring the Future study, the University of Michigan.

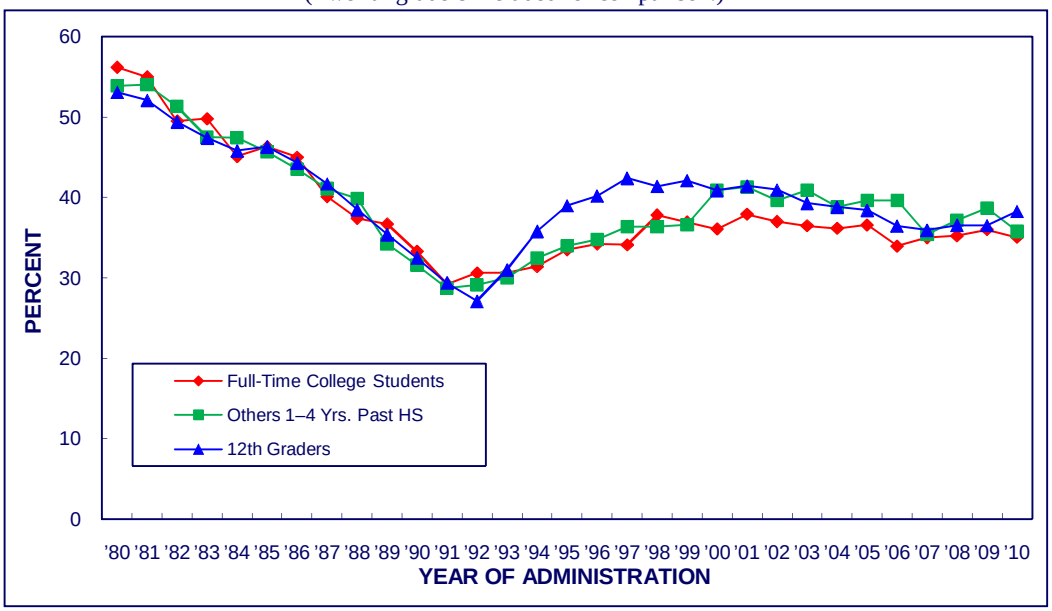
Notes. Level of significance of difference between the two most recent years: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

See relevant footnotes at the end of Table 9-1.

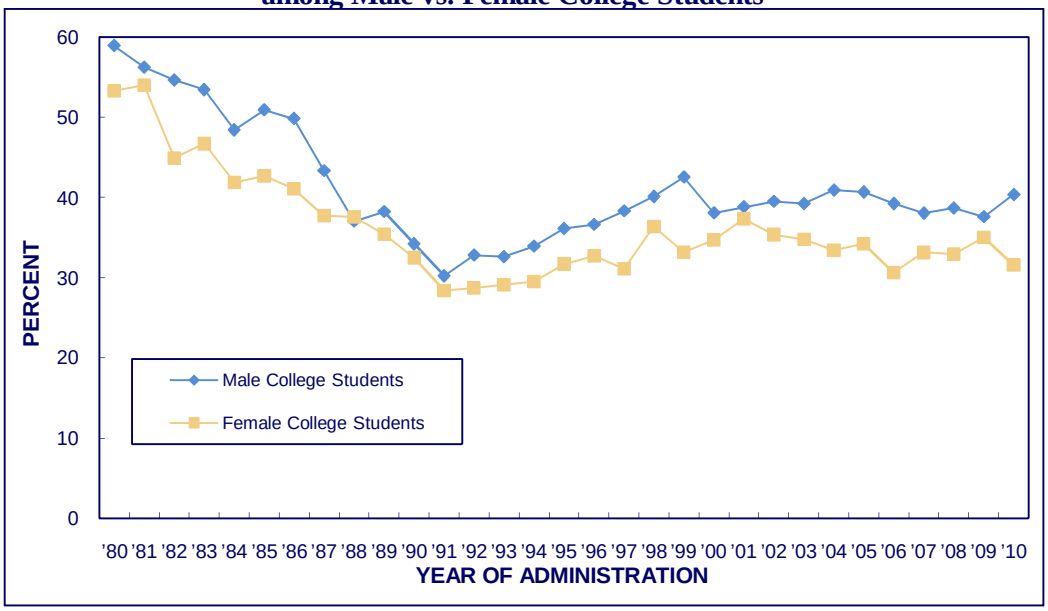
FIGURE 9-1

Any Illicit Drug: Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



Any Illicit Drug: Trends in Annual Prevalence among Male vs. Female College Students



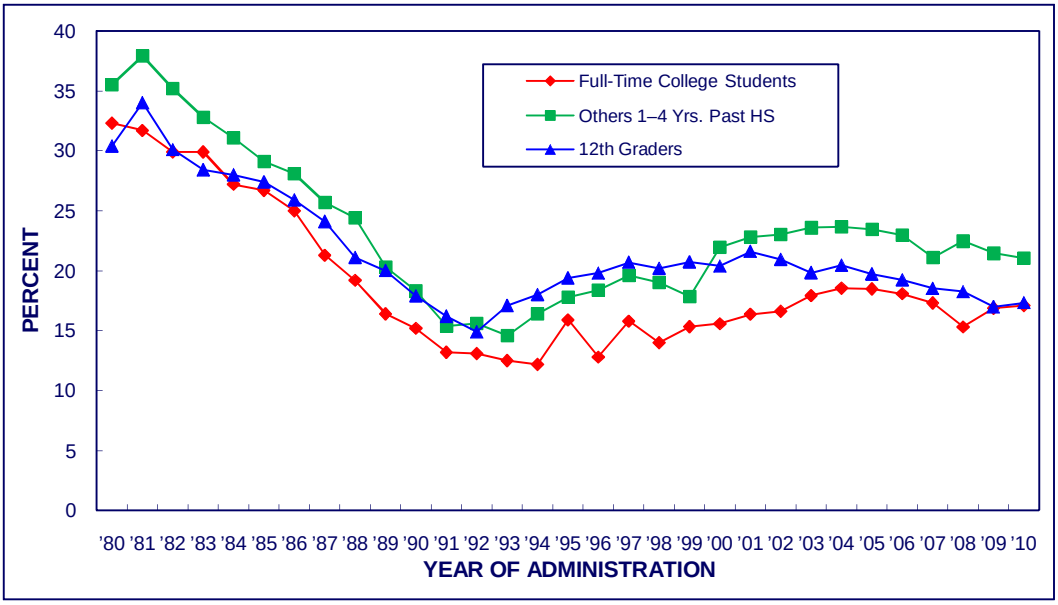
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

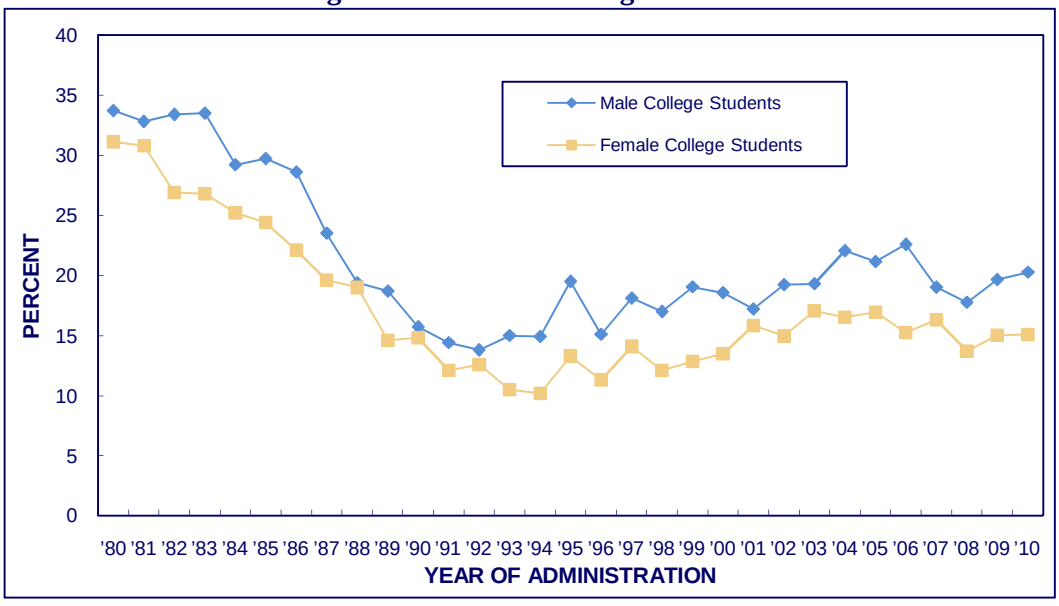
FIGURE 9-2

Any Illicit Drug other than Marijuana: Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



Any Illicit Drug other than Marijuana: Trends in Annual Prevalence among Male vs. Female College Students



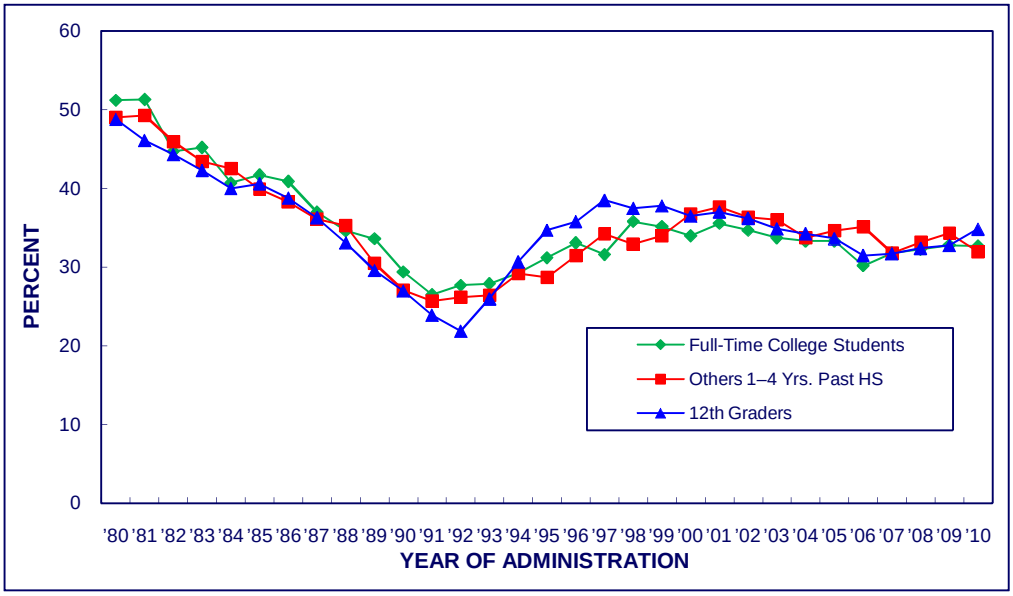
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

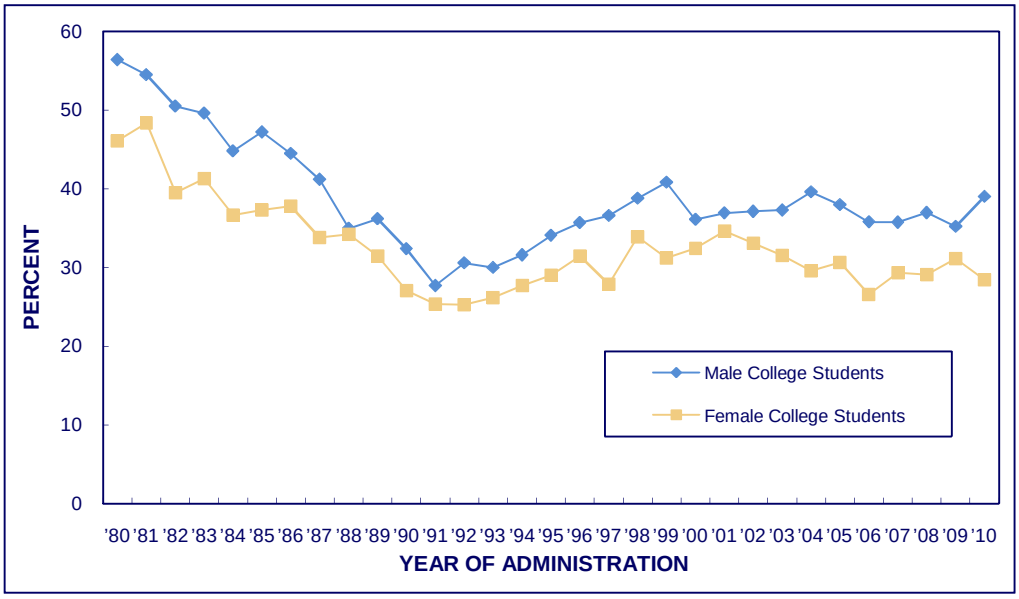
FIGURE 9-3a

Marijuana: Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



Marijuana: Trends in Annual Prevalence among Male vs. Female College Students



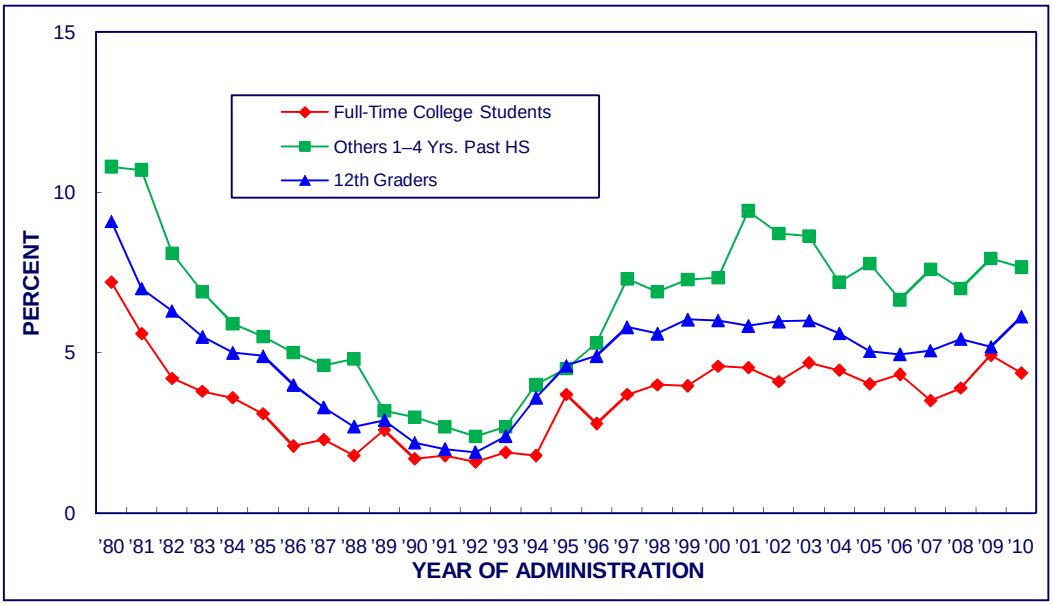
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

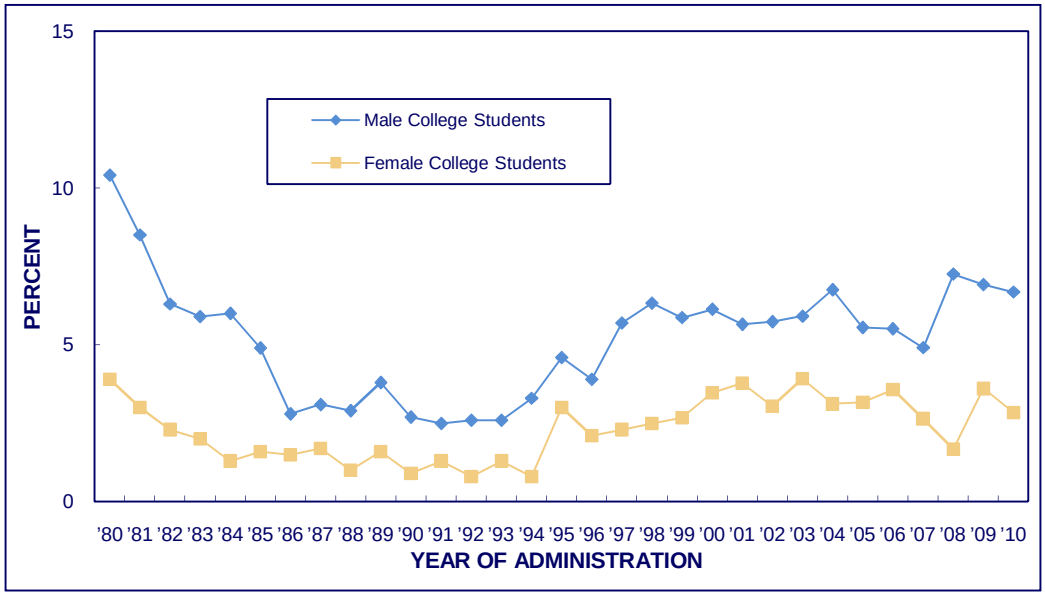
FIGURE 9-3b

Marijuana: Trends in 30-Day Prevalence of Daily Use among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)


15
10
5
0
PERCENT
Full-Time College Students
Others 1–4 Yrs. Past HS
12th Graders
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

Marijuana: Trends in 30-Day Prevalence of Daily Use among Male vs. Female College Students



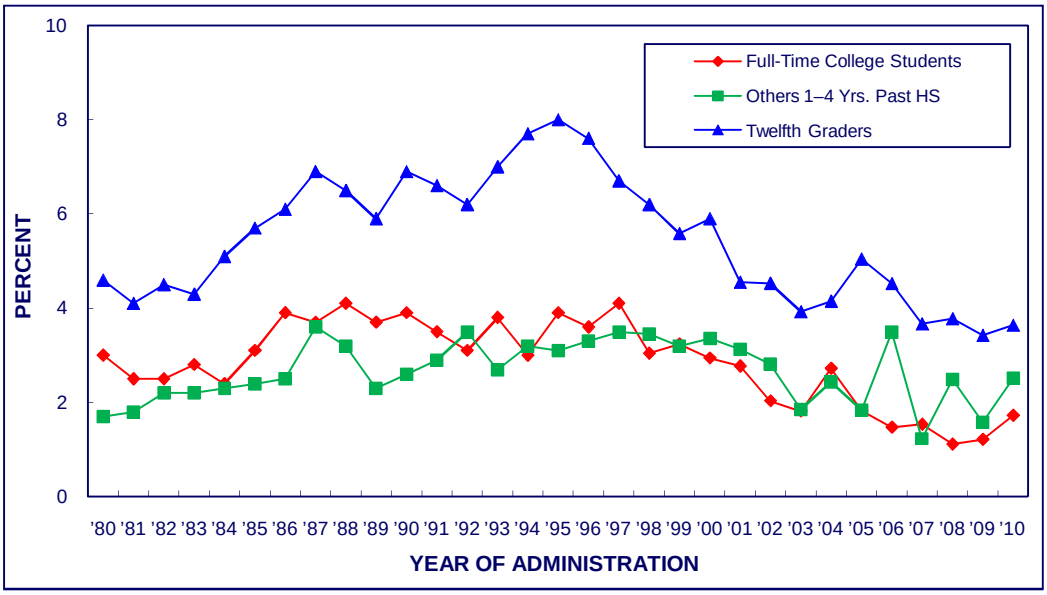
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

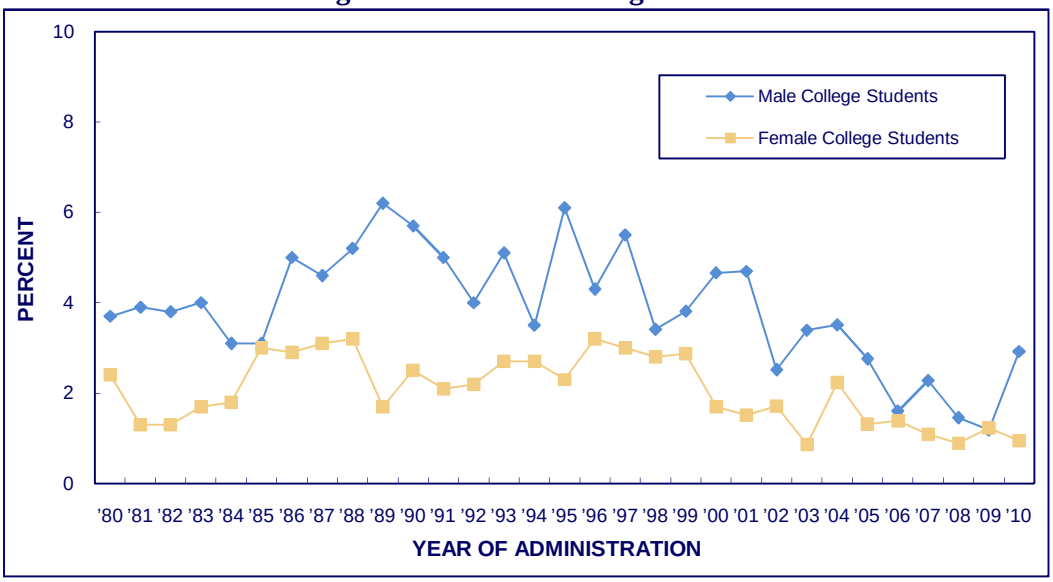
FIGURE 9-4

Inhalants:[a] Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)


10
8
6
4
2
0
PERCENT
Full-Time College Students
Others 1–4 Yrs. Past HS
Twelfth Graders
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

Inhalants:[a] Trends in Annual Prevalence among Male vs. Female College Students



Source. The Monitoring the Future study, the University of Michigan.

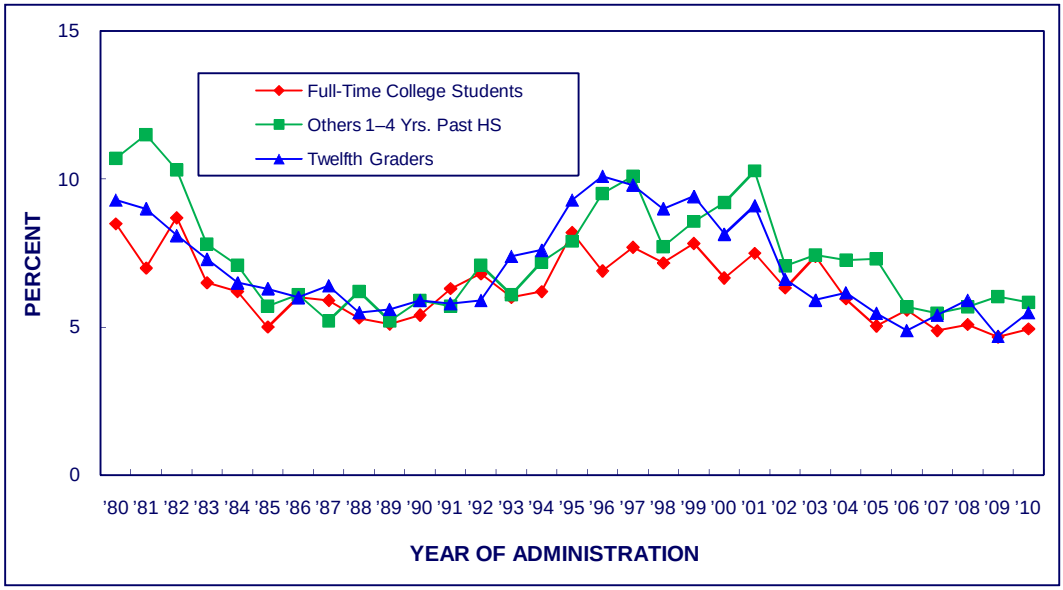
Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

[a]Unadjusted for the possible underreporting of amyl and butyl nitrites.

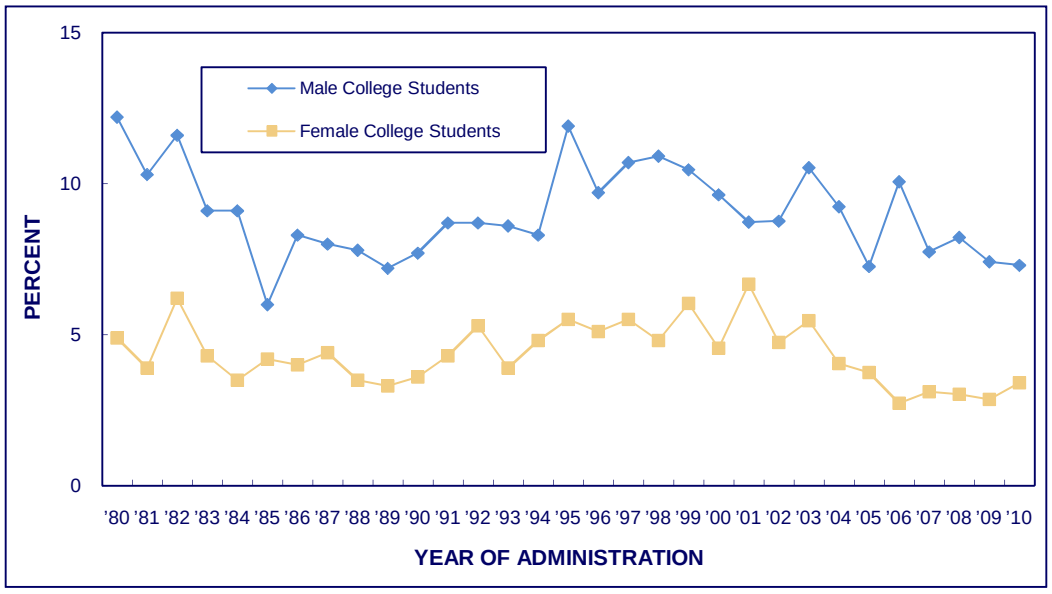
FIGURE 9-5

Hallucinogens:[a] Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)


15
10
5
0
PERCENT
Full-Time College Students
Others 1–4 Yrs. Past HS
Twelfth Graders
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

Hallucinogens:[a] Trends in Annual Prevalence among Male vs. Female College Students



Source. The Monitoring the Future study, the University of Michigan.

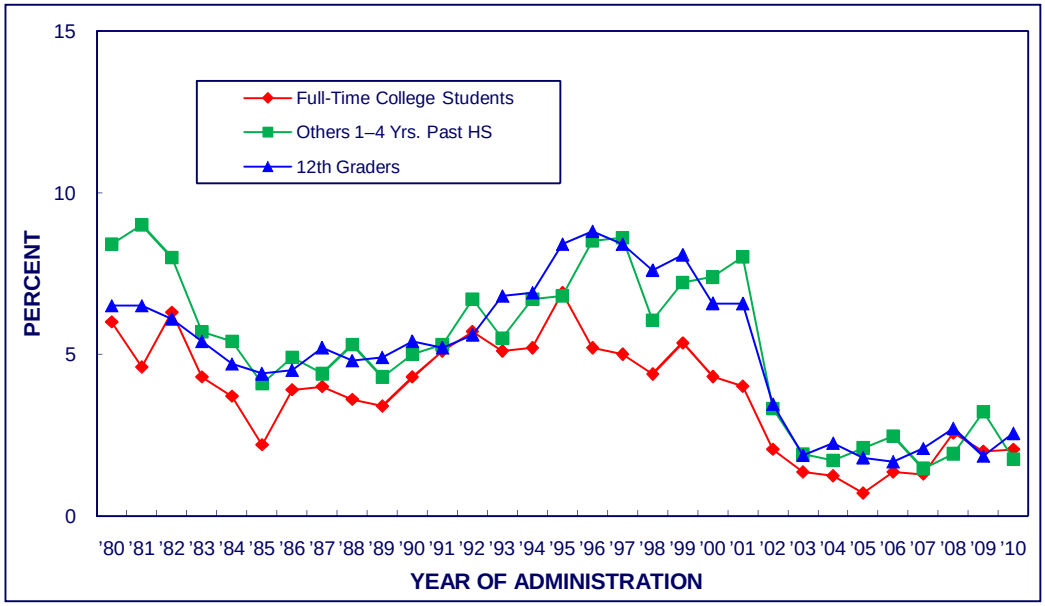
Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

[a]Unadjusted for the possible underreporting of PCP.

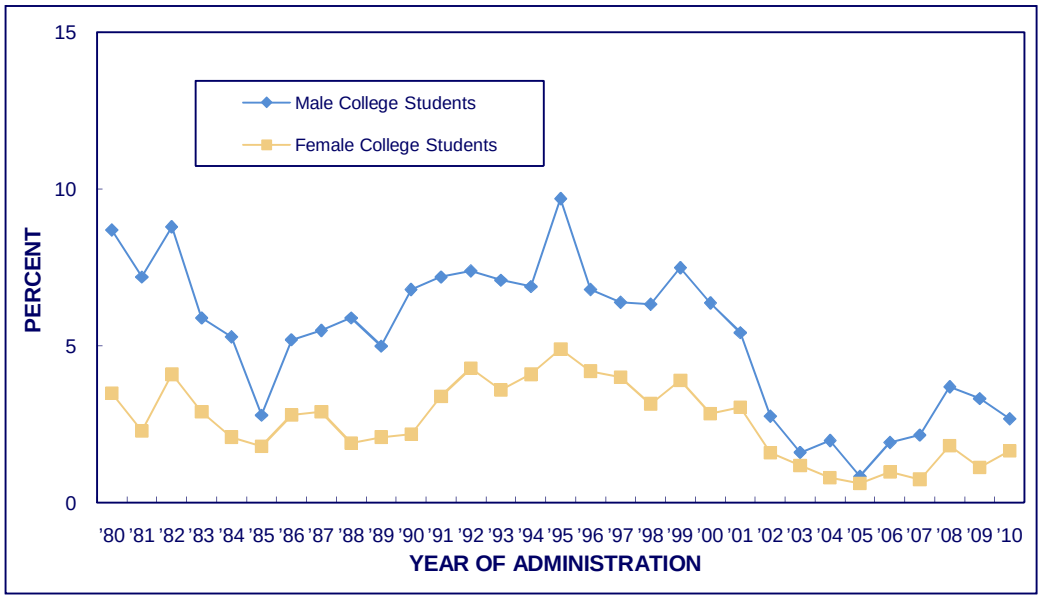
FIGURE 9-6

LSD: Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)


15
10
5
0
PERCENT
Full-Time College Students
Others 1–4 Yrs. Past HS
12th Graders
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

LSD: Trends in Annual Prevalence among Male vs. Female College Students



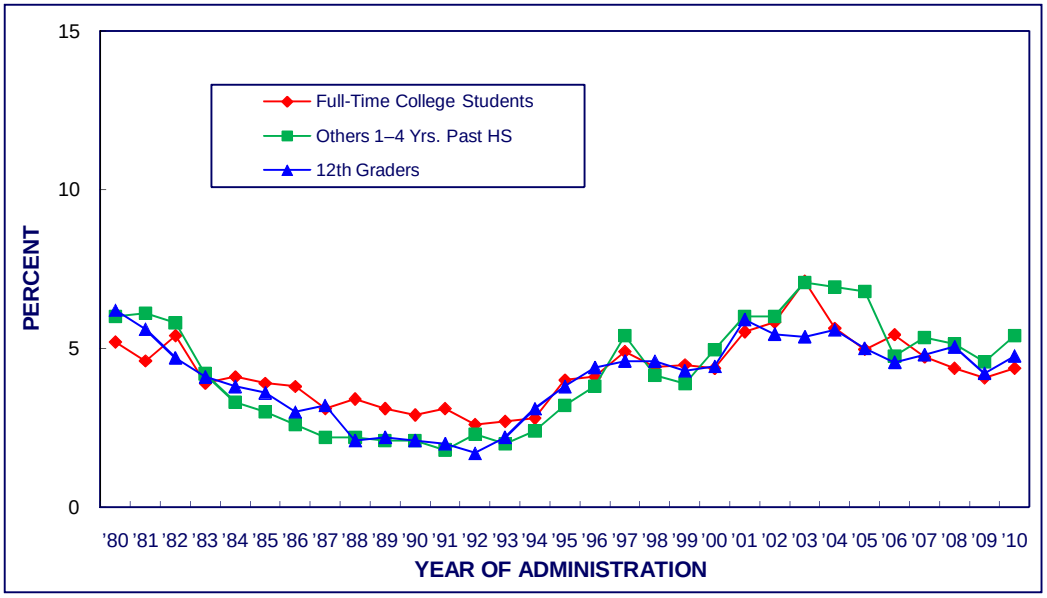
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

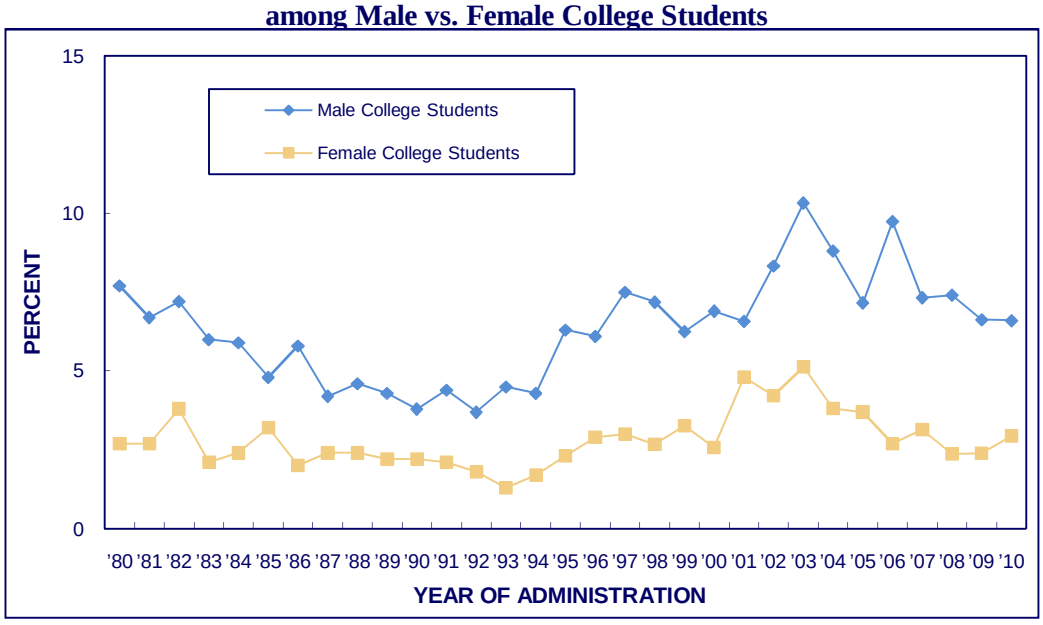
FIGURE 9-7

Hallucinogens other than LSD: Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)


15
10
5
0
PERCENT
Full-Time College Students
Others 1–4 Yrs. Past HS
12th Graders
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

Hallucinogens other than LSD: Trends in Annual Prevalence among Male vs. Female College Students



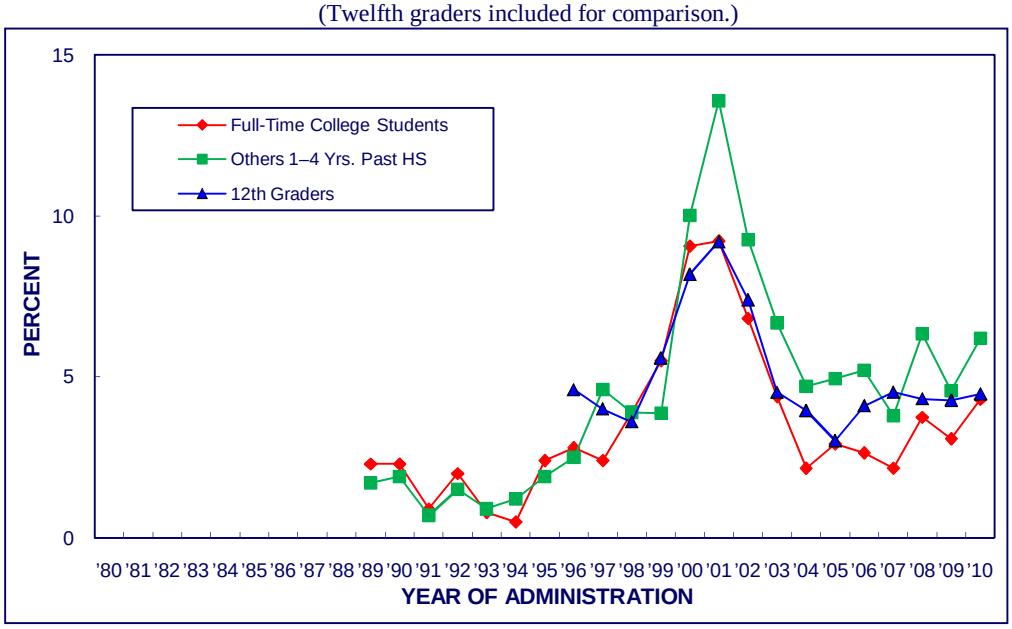
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

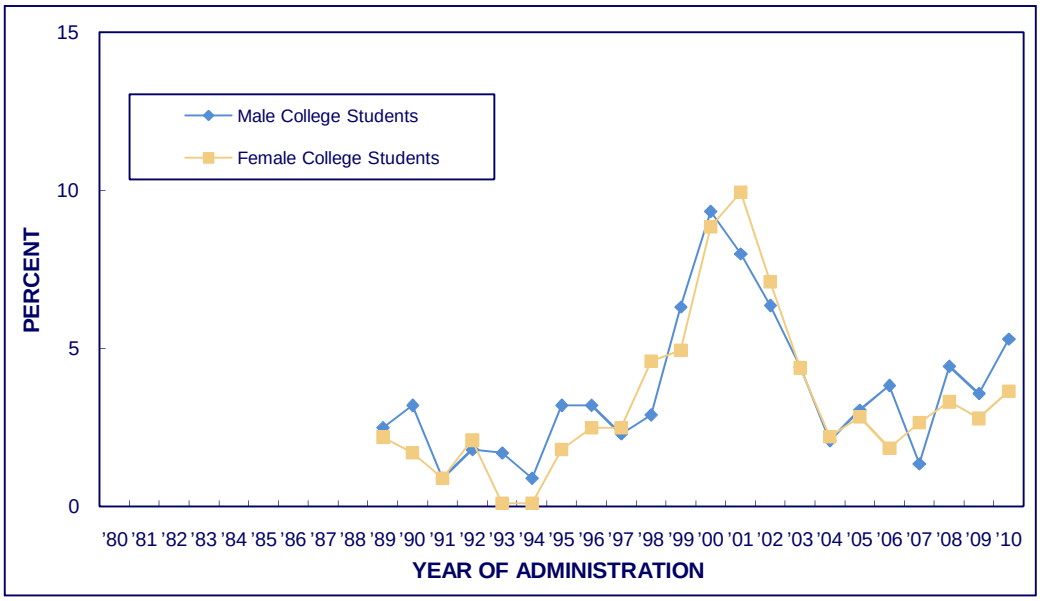
FIGURE 9-8

Ecstasy (MDMA): Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)


15
10
5
0
PERCENT
Full-Time College Students
Others 1–4 Yrs. Past HS
12th Graders
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

Ecstasy (MDMA): Trends in Annual Prevalence among Male vs. Female College Students



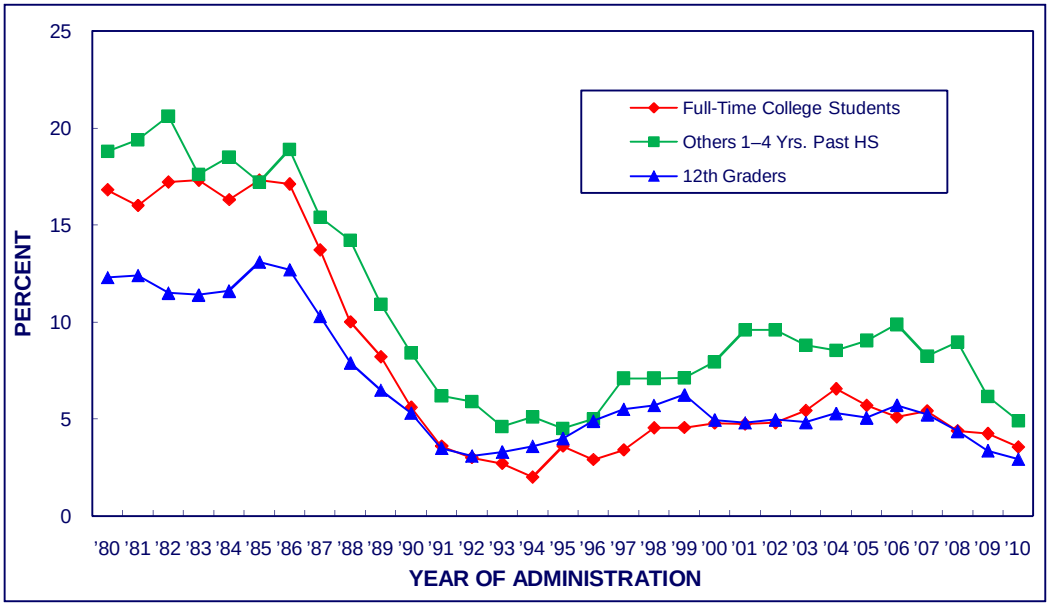
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

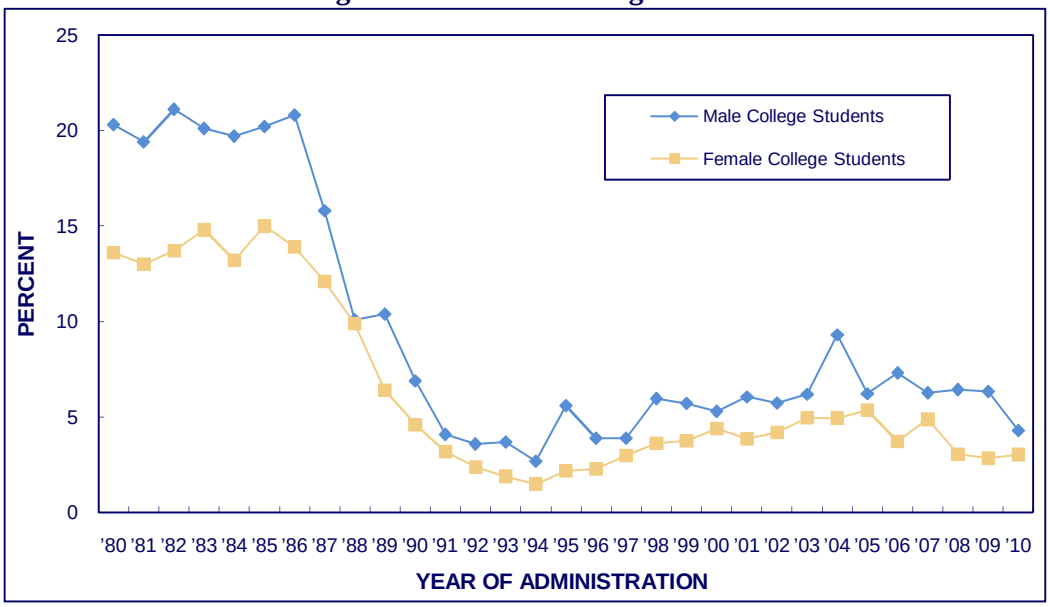
FIGURE 9-9

Cocaine: Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



Cocaine: Trends in Annual Prevalence among Male vs. Female College Students



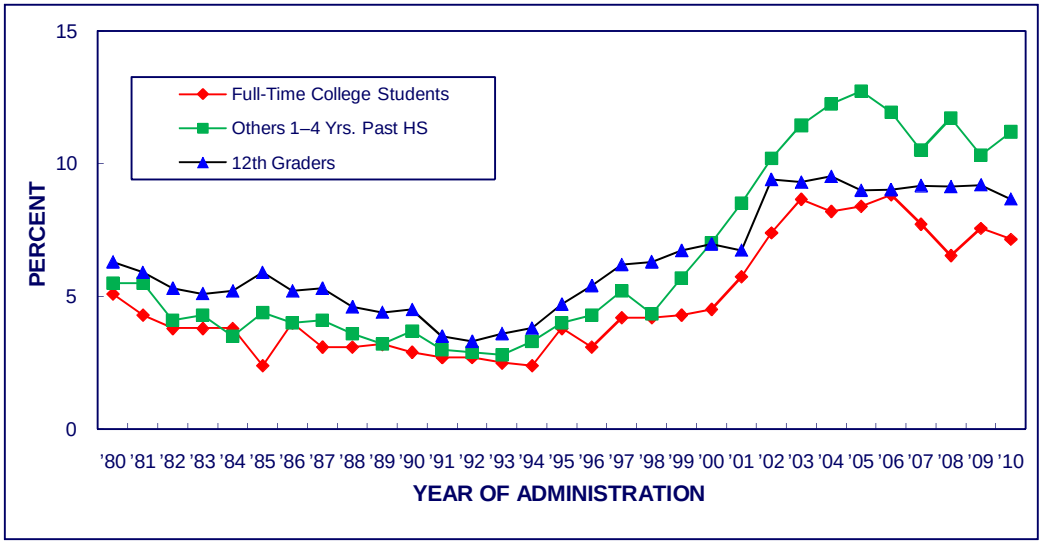
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

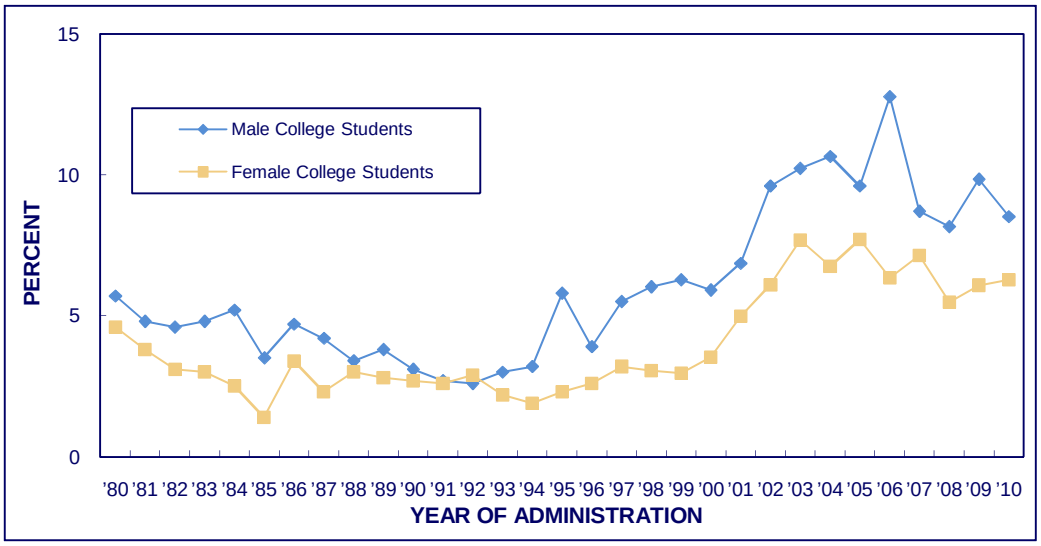
FIGURE 9-10a

Narcotics other than Heroin:[a] Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)


15
10
5
0
PERCENT
Full-Time College Students
Others 1–4 Yrs. Past HS
12th Graders
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

Narcotics other than Heroin:[a] Trends in Annual Prevalence among Male vs. Female College Students



Source. The Monitoring the Future study, the University of Michigan.

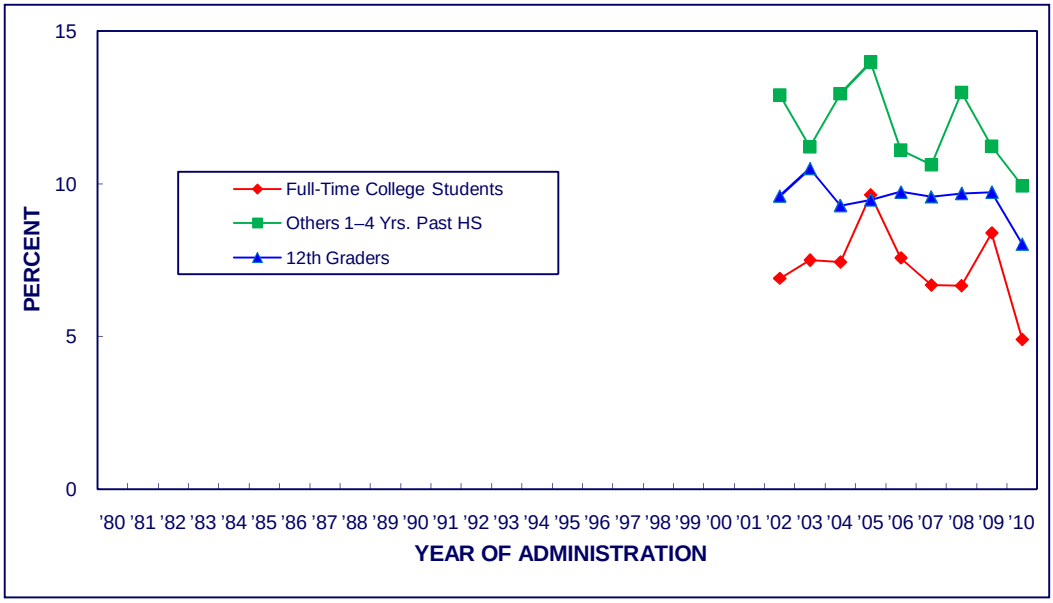
Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

[a]In 2002 the question text was changed on half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced by Vicodin, OxyContin, and Percocet. The 2002 data presented here are based on the changed forms only. In 2003 the remaining forms were changed to the new wording.

FIGURE 9-10b

Vicodin: Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)

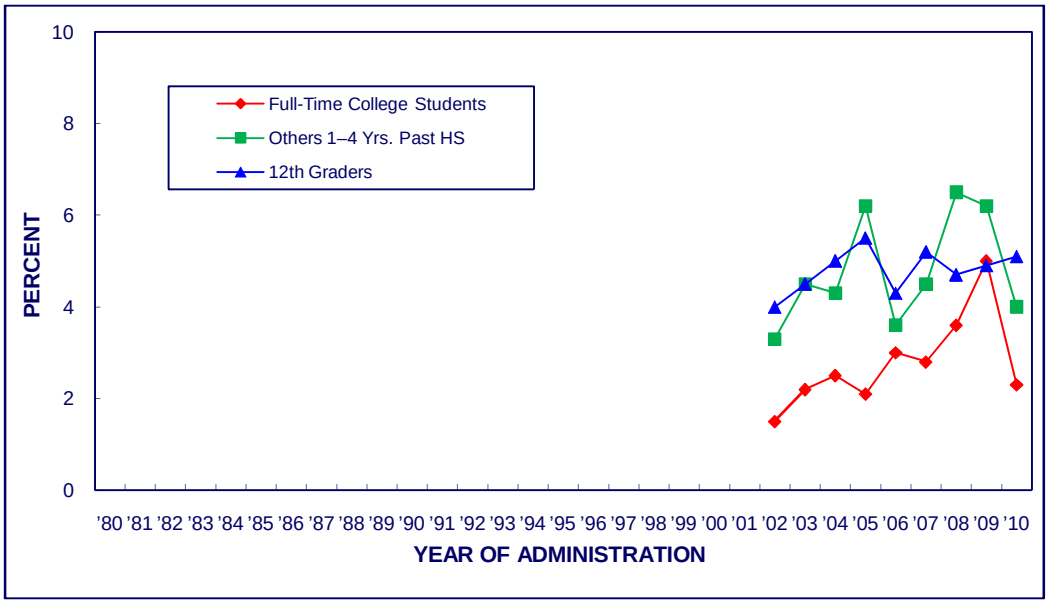

15
10
5
0
PERCENT
Full-Time College Students
Others 1–4 Yrs. Past HS
12th Graders
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

Source. The Monitoring the Future study, the University of Michigan.
Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-10c

OxyContin: Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)

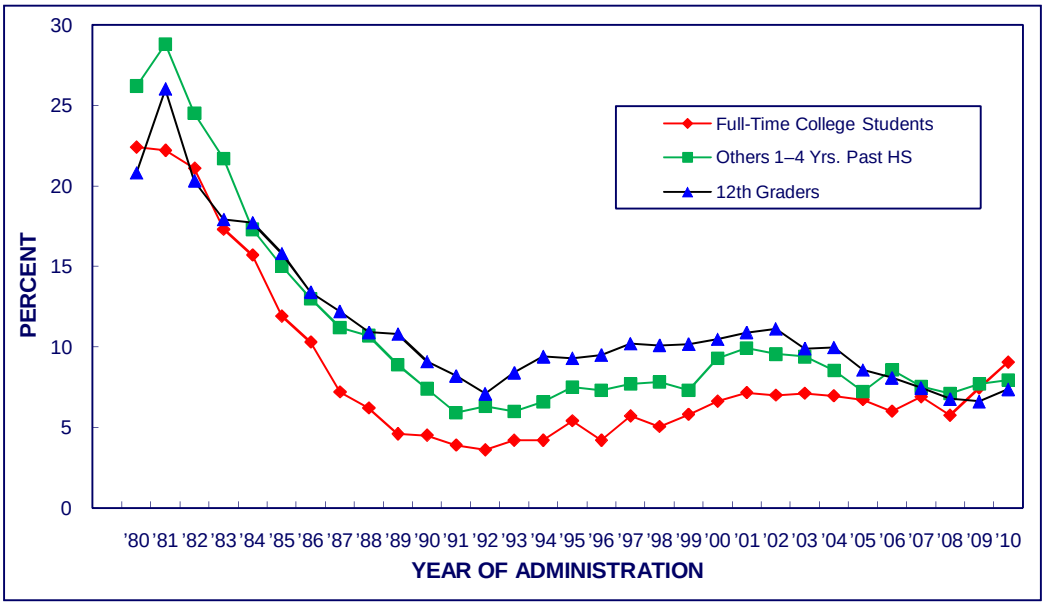

10
8
6
4
2
0
PERCENT
Full-Time College Students
Others 1–4 Yrs. Past HS
12th Graders
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

Source. The Monitoring the Future study, the University of Michigan.
Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

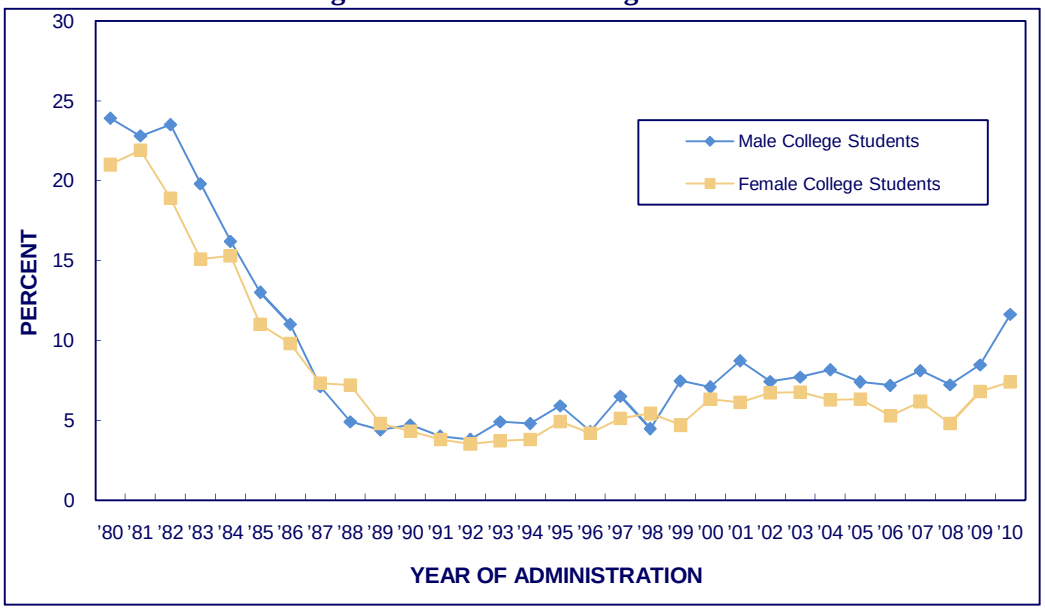
FIGURE 9-11

Amphetamines: Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



Amphetamines: Trends in Annual Prevalence among Male vs. Female College Students



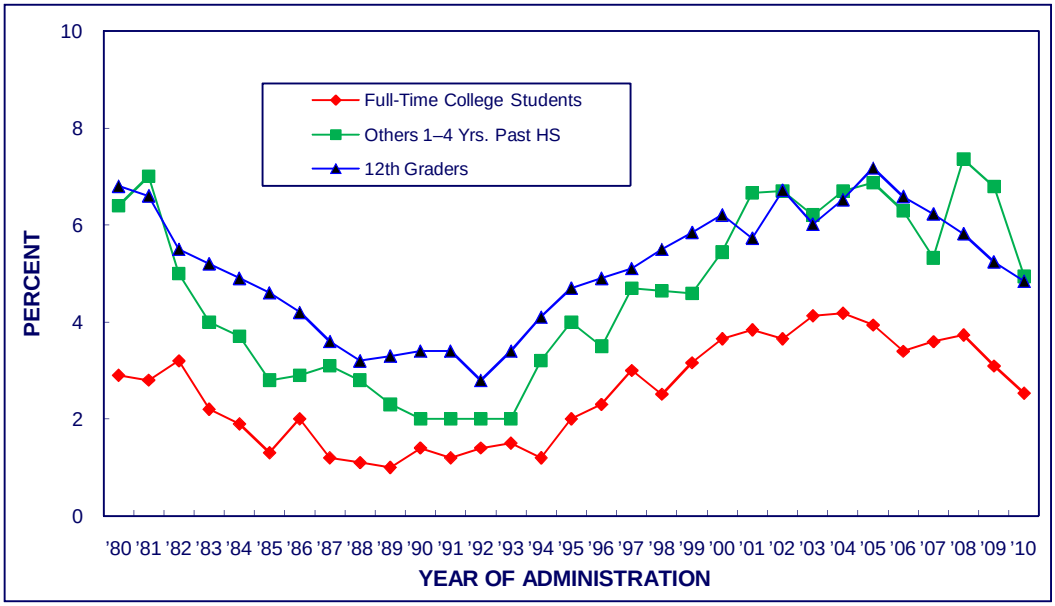
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

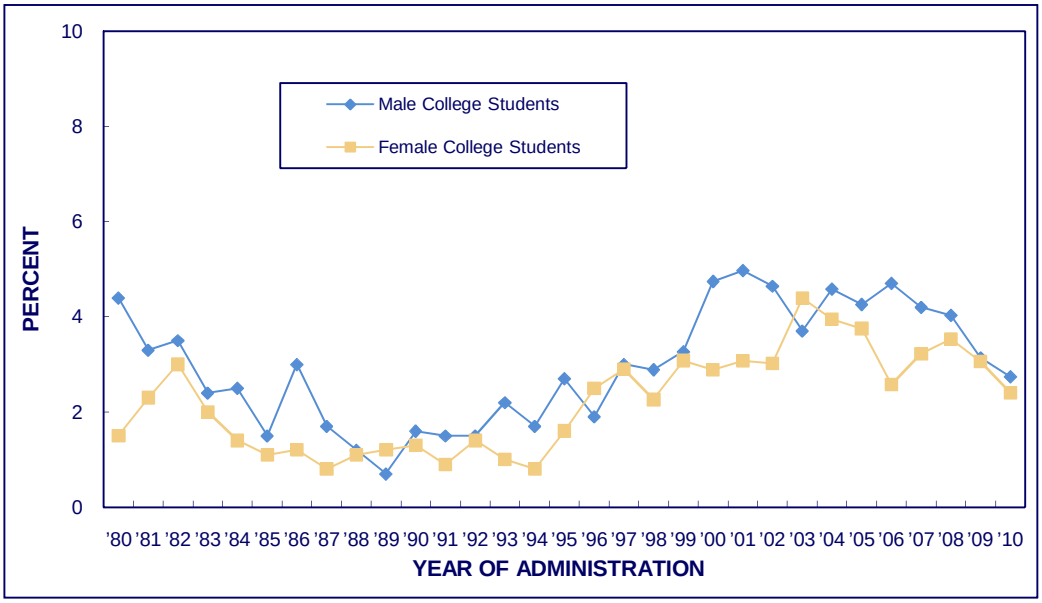
FIGURE 9-12

Sedatives (Barbiturates): Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)


Full-Time College Students
Others 1–4 Yrs. Past HS
12th Graders
PERCENT
0
2
4
6
8
10
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

Sedatives (Barbiturates): Trends in Annual Prevalence among Male vs. Female College Students



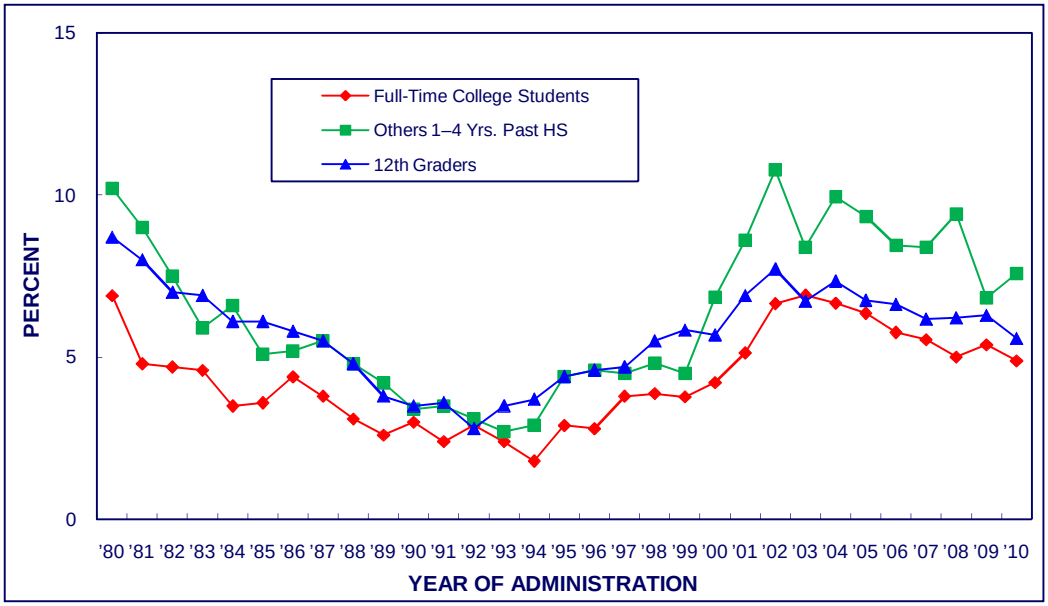
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

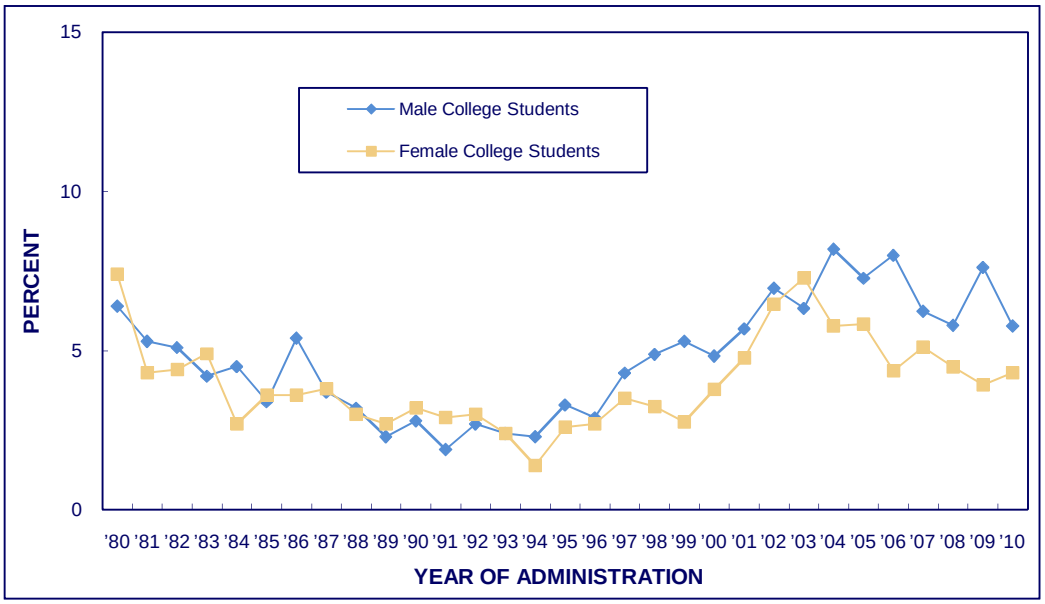
FIGURE 9-13

Tranquilizers: Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)


15
10
5
0
PERCENT
Full-Time College Students
Others 1–4 Yrs. Past HS
12th Graders
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

Tranquilizers: Trends in Annual Prevalence among Male vs. Female College Students



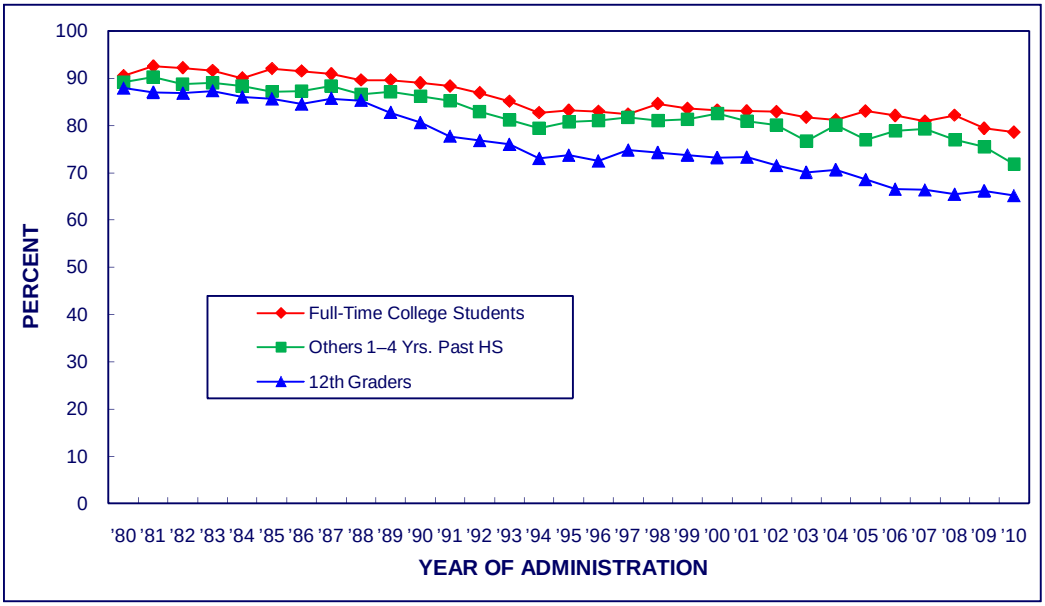
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

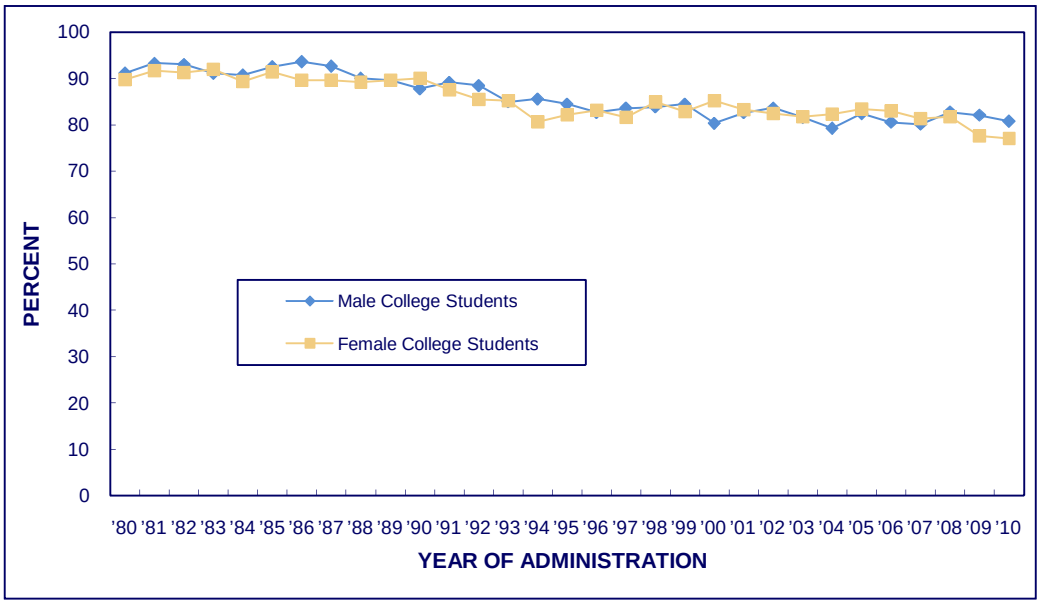
FIGURE 9-14a

Alcohol: Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



Alcohol: Trends in Annual Prevalence among Male vs. Female College Students



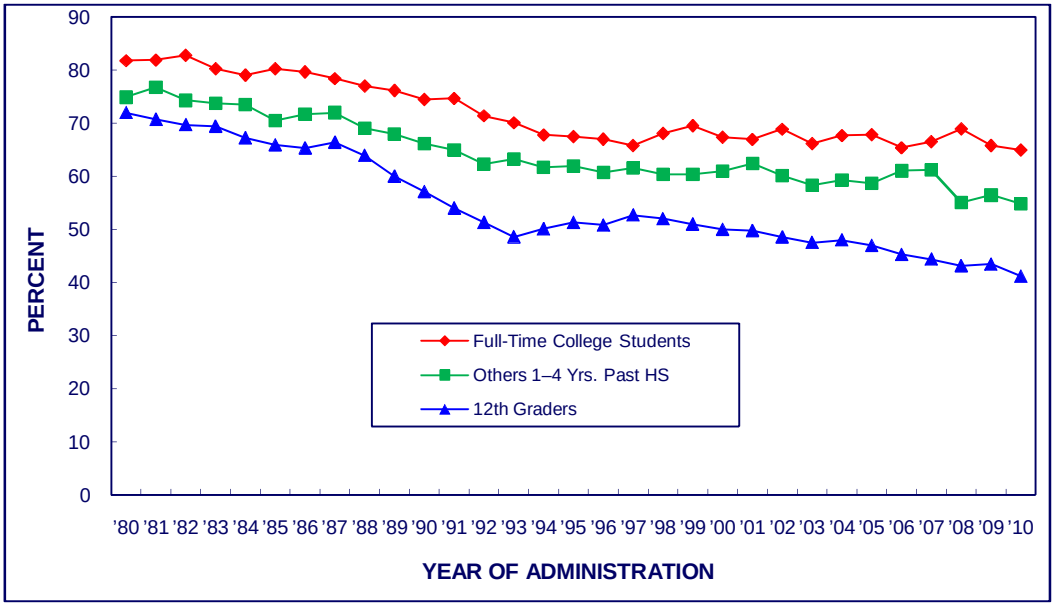
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

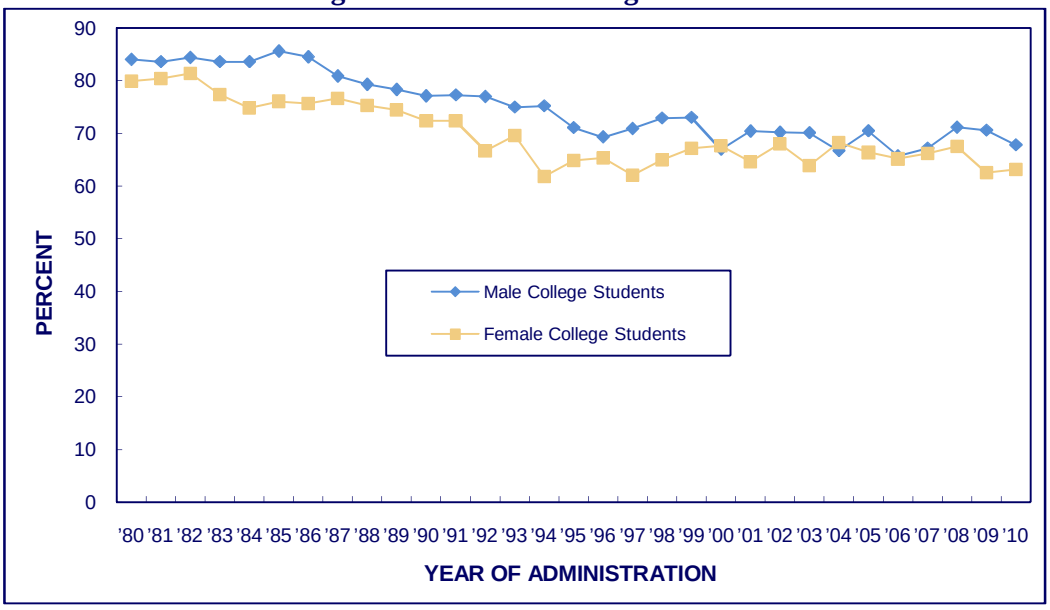
FIGURE 9-14b

Alcohol: Trends in 30-Day Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



Alcohol: Trends in 30-Day Prevalence among Male vs. Female College Students



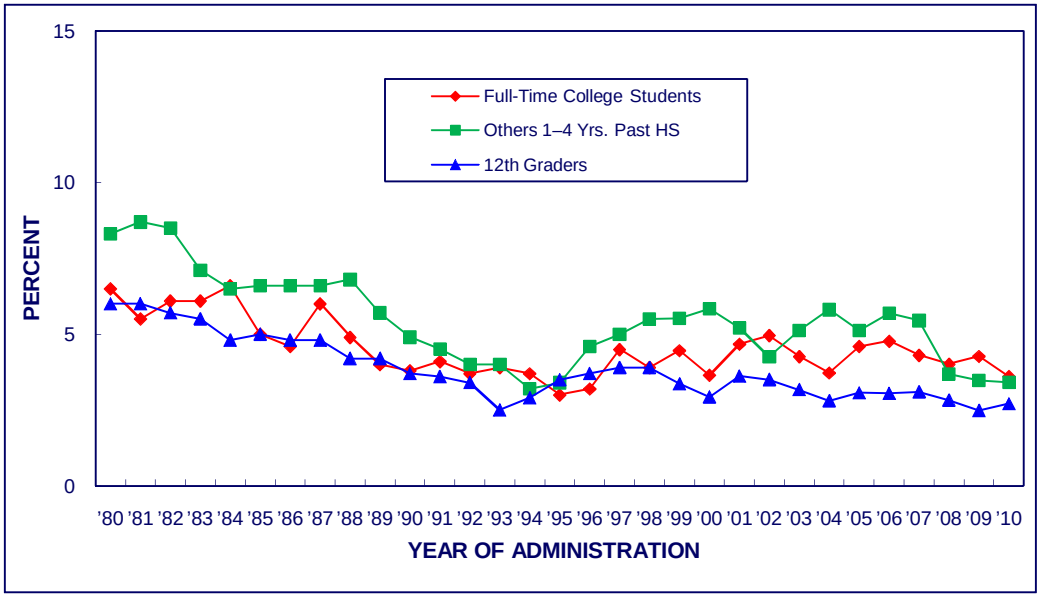
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

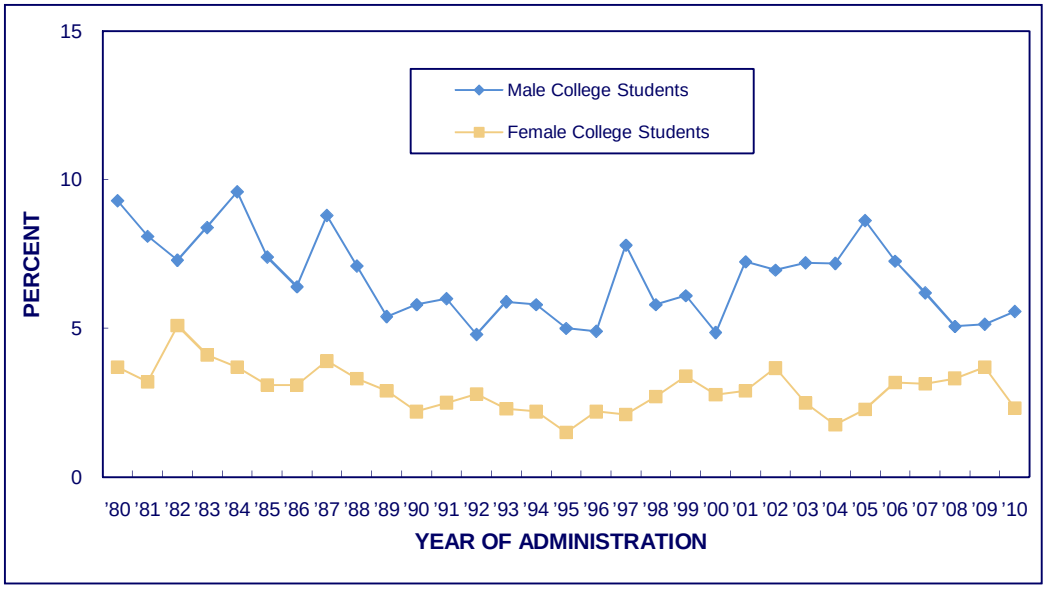
FIGURE 9-14c

Alcohol: Trends in 30-Day Prevalence of Daily Use among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)


15
10
5
0
PERCENT
Full-Time College Students
Others 1–4 Yrs. Past HS
12th Graders
'80 '81 '82 '83 '84 '85 '86 '87 '88 '89 '90 '91 '92 '93 '94 '95 '96 '97 '98 '99 '00 '01 '02 '03 '04 '05 '06 '07 '08 '09 '10
YEAR OF ADMINISTRATION

Alcohol: Trends in 30-Day Prevalence of Daily Use among Male vs. Female College Students



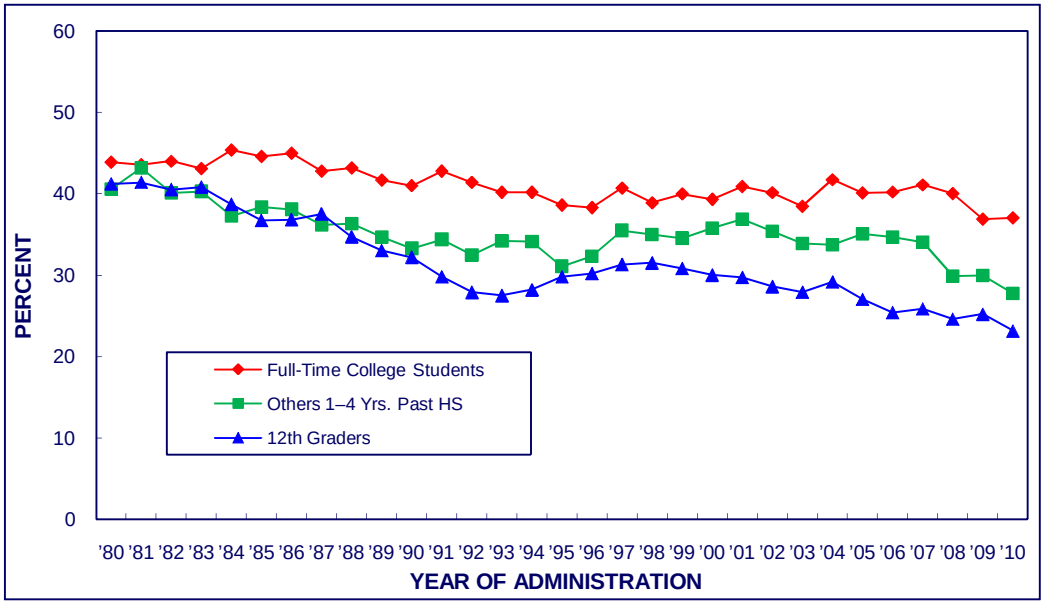
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

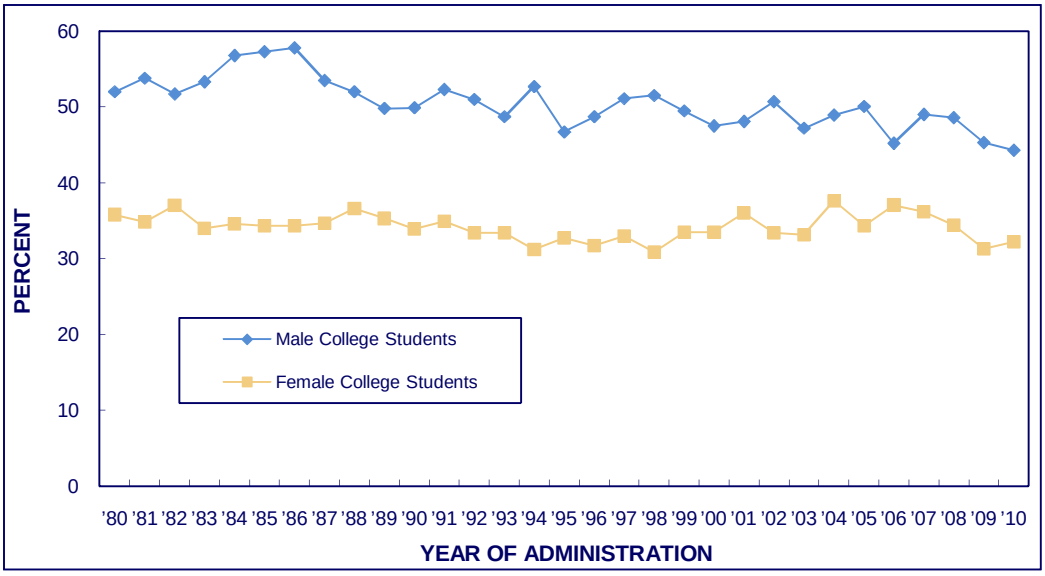
FIGURE 9-14d

Alcohol: Trends in 2-Week Prevalence of 5 or More Drinks in a Row among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



Alcohol: Trends in 2-Week Prevalence of 5 or More Drinks in a Row among Male vs. Female College Students

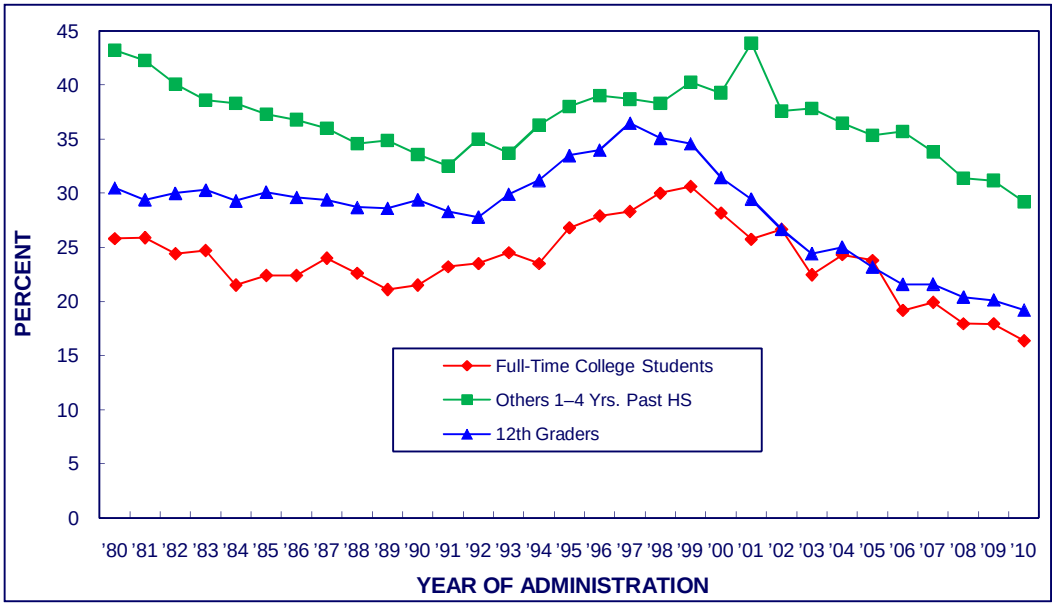


Source. The Monitoring the Future study, the University of Michigan.
Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

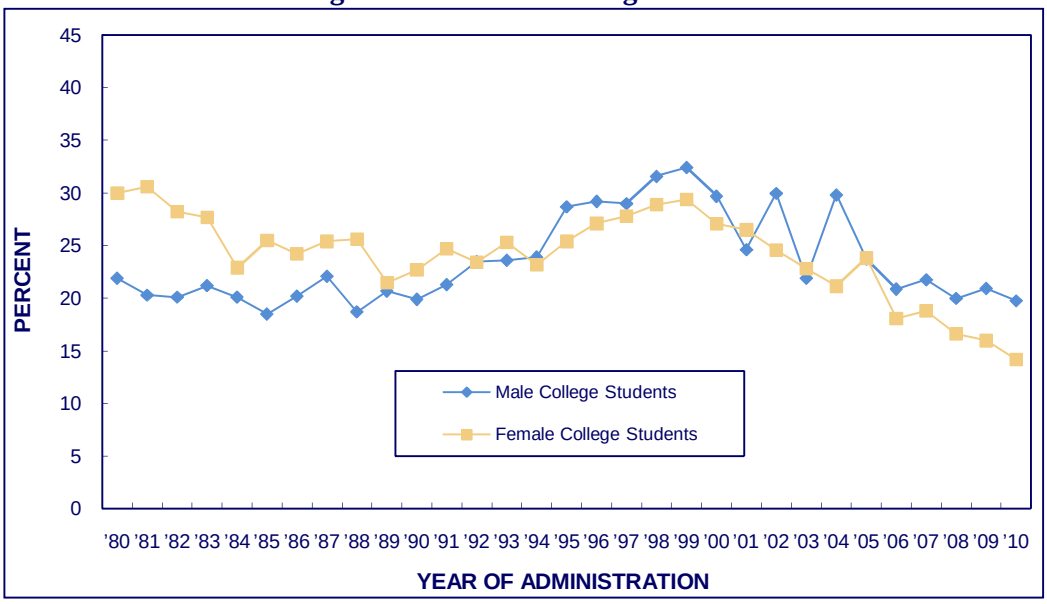
FIGURE 9-15a

Cigarettes: Trends in 30-Day Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



Cigarettes: Trends in 30-Day Prevalence among Male vs. Female College Students



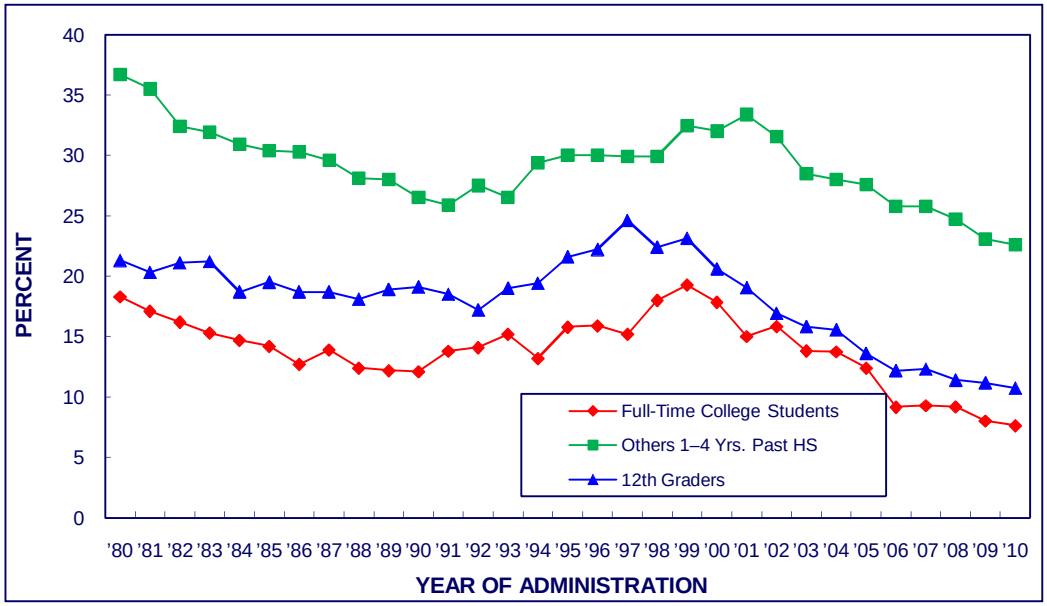
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

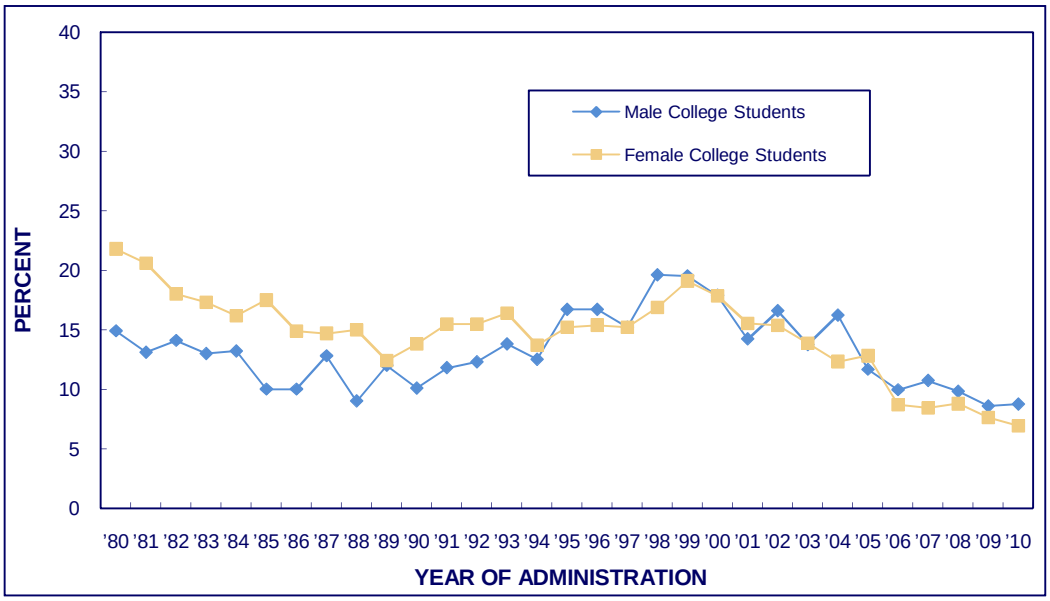
FIGURE 9-15b

Cigarettes: Trends in 30-Day Prevalence of Daily Use among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



Cigarettes: Trends in 30-Day Prevalence of Daily Use among Male vs. Female College Students



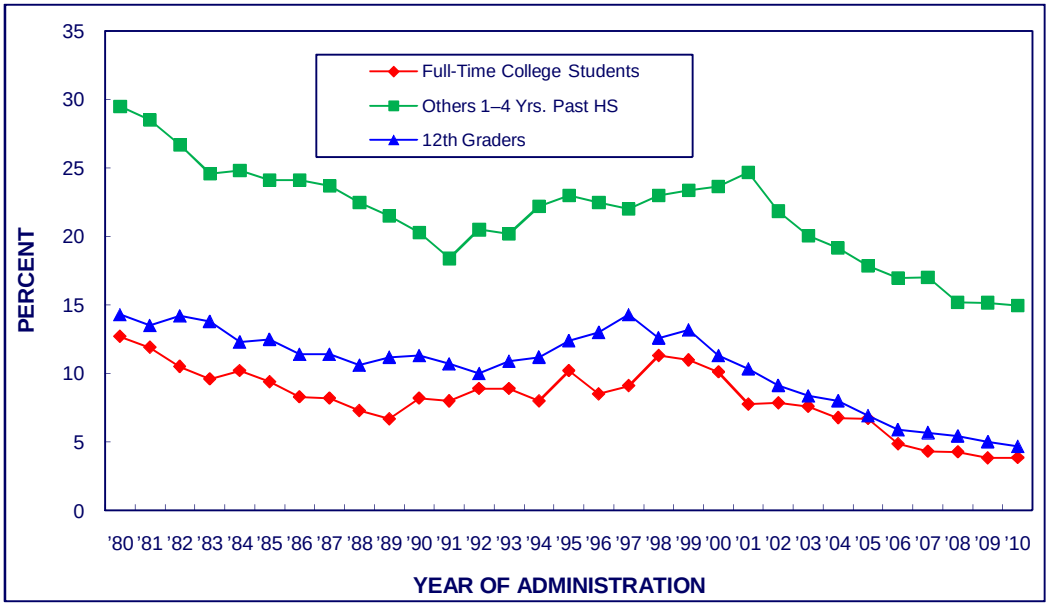
Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

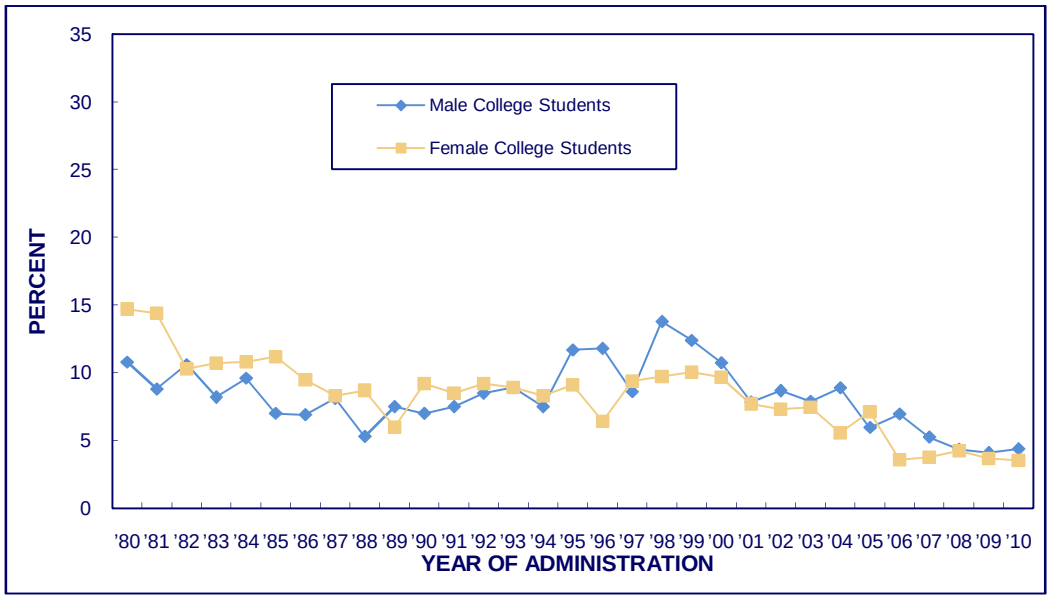
FIGURE 9-15c

Cigarettes: Trends in 30-Day Prevalence of Smoking a Half Pack or More per Day among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



Cigarettes: Trends in 30-Day Prevalence of Smoking a Half Pack or More per Day among Male vs. Female College Students



Source. The Monitoring the Future study, the University of Michigan.

Note. "Others" refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

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